CE

SPORTON LAB.

Certificate No: EC171809

CERTIFICATE

EQUIPMENT: Eyezone VIP Pro

MODEL NO. : Eyezone PAE101V.I.P Pro, Eyezone PAE121V.I.P Pro, Eyezone PAE15V.I.P Pro

APPLICANT : Frame Jazz Display Co., LTD
12F-3, No.268, Lian Cheng Rd., Chung Ho District.
New Taipei City. 235, Taiwan

SPORTON LAB.

I HEREBY CERTIFY THAT:

THE MEASUREMENTS SHOWN IN THIS TEST REPORT WERE MADE IN ACCORDANCE WITH THE PROCEDURES GIVEN IN **EUROPEAN COUNCIL DIRECTIVE 2004/108/EC.** THE EQUIPMENT WAS ***PASSED*** THE TEST PERFORMED ACCORDING TO
**European Standard EN 55022:2006/A1:2007 Class B,
EN 61000-3-2:2006/A2:2009, EN 61000-3-3:2008 and
EN 55024:1998/A1:2001/A2:2003 (IEC 61000-4-2:2008,
IEC 61000-4-3:2006/A1:2007/A2:2010, IEC 61000-4-4:2004,
IEC 61000-4-5:2005, IEC 61000-4-6:2008,
IEC 61000-4-8:2009, IEC 61000-4-11:2004).**
THE TEST WAS CARRIED OUT ON **Nov. 17, 2011** AT
SPORTON INTERNATIONAL INC. LAB.

Castries Huang
Supervisor

CE EMC TEST REPORT

according to

European Standard EN 55022:2006/A1:2007 Class B,
EN 61000-3-2:2006/A2:2009, EN 61000-3-3:2008 and
EN 55024:1998/A1:2001/A2:2003 (IEC 61000-4-2:2008,
IEC 61000-4-3:2006/A1:2007/A2:2010, IEC 61000-4-4:2004,
IEC 61000-4-5:2005, IEC 61000-4-6:2008,
IEC 61000-4-8:2009, IEC 61000-4-11:2004)

Equipment	:	Eyezone VIP Pro
Model No.	:	Eyezone PAE101V.I.P Pro, Eyezone PAE121V.I.P Pro, Eyezone PAE15V.I.P Pro
Applicant	:	Frame Jazz Display Co., LTD 12F-3, No.268, Lian Cheng Rd., Chung Ho District. New Taipei City. 235, Taiwan

Statement

- The test result refers exclusively to the test presented test model / sample.
- Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.
- This test report is only applicable to European Community.

SPORTON International Inc.

6F, No. 106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

Table of Contents

History of this test report

Report No.	Version	Issue Date	Description
EC171809	Rev.01	Nov. 21, 2011	Initial issue of report

Certificate No. : EC171809

CERTIFICATE OF COMPLIANCE

according to

**European Standard EN 55022:2006/A1:2007 Class B,
EN 61000-3-2:2006/A2:2009, EN 61000-3-3:2008 and
EN 55024:1998/A1:2001/A2:2003 (IEC 61000-4-2:2008,
IEC 61000-4-3:2006/A1:2007/A2:2010, IEC 61000-4-4:2004,
IEC 61000-4-5:2005, IEC 61000-4-6:2008,
IEC 61000-4-8:2009, IEC 61000-4-11:2004)**

Equipment	:	Eyezone VIP Pro
Model No.	:	Eyezone PAE101V.I.P Pro, Eyezone PAE121V.I.P Pro, Eyezone PAE15V.I.P Pro
Applicant	:	Frame Jazz Display Co., LTD 12F-3, No.268, Lian Cheng Rd., Chung Ho District. New Taipei City. 235, Taiwan

I **HEREBY** CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **EUROPEAN COUNCIL DIRECTIVE 2004/108/EC.** The equipment was ***passed*** the test performed according to **European Standard EN 55022:2006/A1:2007 Class B, EN 61000-3-2:2006/A2:2009, EN 61000-3-3:2008 and EN 55024:1998/A1:2001/A2:2003 (IEC 61000-4-2:2008, IEC 61000-4-3:2006/A1:2007/A2:2010, IEC 61000-4-4:2004, IEC 61000-4-5:2005, IEC 61000-4-6:2008, IEC 61000-4-8:2009, IEC 61000-4-11:2004).**
The test was carried out on ***Nov. 17, 2011*** at **SPORTON International Inc.** LAB.



Castries Huang
Supervisor

SPORTON International Inc.

6F, No. 106, Sec. 1, Hsin Tai Wu Rd., Hsi Chih, Taipei Hsien, Taiwan, R.O.C.

1. General Description of Equipment under Test

1.1. Applicant

Frame Jazz Display Co., LTD

12F-3, No.268, Lian Cheng Rd., Chung Ho District. New Taipei City. 235, Taiwan

1.2. Manufacturer

Grandtec Electronic Corp.

8F, No.268, Lian Cheng Rd., Chung Ho District. New Taipei City. 235, Taiwan

1.3. Basic Description of Equipment under Test

Equipment	:	Eyezone VIP Pro
Model No.	:	Eyezone PAE101V.I.P Pro, Eyezone PAE121V.I.P Pro, Eyezone PAE15V.I.P Pro
Trade Name	:	Eyezone
RJ45 Cable	:	Non-Shielded, 20.0 m
Data Cable Type	:	Please see section 2.2 of this test report for details
Power Supply Type	:	From Adapter
AC Power Cord	:	Non-Shielded, 1.8 m, 3 pin
DC Power Cable	:	Non-Shielded, 0.9 m

1.4. Feature of Equipment under Test

Please refer to user manual.

2. Test Configuration of Equipment under Test

2.1. Test Manner

a. The EUT has been associated with personal computer and peripherals pursuant to European Standard EN 55022 and EN 55024.

b. The complete test system included remote workstation, DELL LCD Monitor, DELL USB Keyboard, DELL USB Mouse, i- Acon Headset, ACEEX Modem, Transcend CF and EUT for Conducted and Radiated below 1GHz test. The remote workstation included DELL PC, DELL LCD Monitor, DELL USB Keyboard and DELL USB Mouse.

c. The complete test system included remote workstation, DELL LCD Monitor, DELL USB Keyboard, MICROSOFT USB Mouse, HAWK MIC+EARPHONE ACEEX Modem, PQI CF CARD and EUT for Radiated above 1GHz test. The remote workstation included DELL NOTE BOOK.

d. The complete test system included remote workstation, DELL LCD Monitor, Microsoft USB Keyboard, Microsoft USB Mouse, INTOPIC Headset, TRANSCEND CF and EUT for EMS test. The remote workstation included DELL PC, DELL LCD Monitor, DELL USB Keyboard and DELL USB Mouse.

e. The following test modes were performed:

Test Items	Function Type
AC Conducted Emission	Mode 1. PAE15, D-SUB : 1920*1200 60Hz + LAN : 1Gbps + Earphone Mode 2. PAE15, D-SUB : 1024*768 + LAN 1Gbps + Earphone Mode 3. PAE15, D-SUB : 1600*1200 + LAN 100Mbps + Speaker Mode 4. PAE121, D-SUB : 1920*1200 60Hz + LAN : 1Gbps + Earphone Mode 5. PAE101, D-SUB : 1920*1200 60Hz + LAN : 1Gbps + Earphone cause “mode 1” generated the worst test result; it was reported as final data.
ISN	Mode 1. PAE15, LAN : 10Mbps Mode 2. PAE121, LAN : 10Mbps Mode 3. PAE101, LAN : 10Mbps Mode 4. PAE15, LAN : 100Mbps Mode 5. PAE15, LAN : 1Gbps cause “mode 1,4,5” generated the worst test result; it was reported as final data.
Radiated Emissions	Mode 1. PAE15, D-SUB : 1920*1200 60Hz + LAN : 1Gbps + Earphone Mode 2. PAE15, D-SUB : 1024*768 + LAN 1Gbps + Earphone Mode 3. PAE15, D-SUB : 1600*1200 + LAN 100Mbps + Speaker Mode 4. PAE121, D-SUB : 1920*1200 60Hz + LAN : 1Gbps + Earphone Mode 5. PAE101, D-SUB : 1920*1200 60Hz + LAN : 1Gbps + Earphone < below 1GHz >cause “mode 1” generated the worst test result; it was reported as final data. < above 1GHz >cause “mode 1” is highest frequency of the internal sources of

	the EUT; it was reported as final data.
EMS	Mode 1. PAE15 Mode 2. PAE121 Mode 3. PAE101

f. Frequency range investigated: Conduction 150 kHz to 30 MHz, radiation 30 MHz to 6,000 MHz.

g. Frequency range investigated immunity test: CS 150 kHz to 80 MHz, RS 80 MHz to 1,000 MHz.

2.2. Description of Test System

< EMI ><Conducted and Radiated below 1GHz>

No.	Peripheral	Manufacturer	Model Number	FCC ID	Cable / Spec. Description	Placed
1	LCD Monitor	DELL	2408WFPB	DoC	D-SUB Cable, D-Shielded, 1.8m	Local
2	USB Keyboard	DELL	SK-8175	DoC	USB Cable, AL-F-Shielded, 1.8m	Local
3	USB Mouse	DELL	MOC5UO	DoC	USB Cable, AL-F-Shielded, 1.8m	Local
4	Modem	ACEEX	DM1414	IFAXDM1414	RS-232 Cable, D-Shielded, 1.15m	Local
5	Headset	i-Acon	HOH-323-BK	N/A	Non-Shielded, 2.0m	Local
6	CF	Transcend	2GB	DoC	N/A	Local
7	Personal Computer	DELL	DCTA	DoC	N/A	Remote
8	LCD Monitor	DELL	E198WFPf	DoC	D-SUB Cable, D-Shielded, 1.8m	Remote
9	USB Keyboard	DELL	SK-8175	DoC	USB Cable, AL-F-Shielded, 1.8m	Remote
10	USB Mouse	DELL	MOC5UO	DoC	USB Cable, AL-F-Shielded, 1.8m	Remote

< EMI ><Radiated above 1GHz>

No.	Peripheral	Manufacturer	Model Number	FCC ID	Cable / Spec. Description	Placed
1	LCD Monitor	DELL	U2410f	DoC	D-SUB Cable, D-Shielded, 1.8m	Local
2	USB Keyboard	DELL	SK-8115	DoC	USB Cable, AL-F-Shielded, 2.0m	Local
3	USB Mouse	MICROSOFT	1004	DoC	USB Cable, Non-Shielded, 1.8m	Local
4	Modem	ACEEX	DM1414	IFAXDM1414	RS-232 Cable, D-Shielded, 1.15m	Local
5	Headset	HAWK	03-MSB301	N/A	Non-Shielded, 1.7m	Local
6	CF Card	PQI	256MB	DoC	N/A	Local
7	Notebook PC	DELL	PP32LB	DoC	N/A	Remote

< EMS >

No.	Peripheral	Manufacturer	Model Number	FCC ID	Cable / Spec. Description	Placed
1	LCD Monitor	DELL	E198WFPf	DoC	D-SUB Cable, 1.8m	Local
2	USB Keyboard	Microsoft	1366	DoC	USB Cable, 2.0m	Local
3	USB Mouse	Microsoft	1113	DoC	USB Cable, 1.8m	Local
4	Headset	INTOPIC	SR-MK02	N/A	Non-Shielded, 1.8m	Local
5	CF	TRANSCEND	2GB	DoC	N/A	Local
6	Personal Computer	DELL	470	DoC	N/A	Remote
7	LCD Monitor	DELL	E198WFPf	DoC	D-SUB Cable, D-Shielded, 1.8m	Remote
8	USB Keyboard	DELL	SK-8115	DoC	USB Cable, AL-F-Shielded, 2.0m	Remote
9	USB Mouse	DELL	MOA8BO	DoC	USB Cable, AL-F-Shielded, 1.8m	Remote

3. Test Software

< EMI >

An executive program, “MY H WIN.exe” under Windows Embedded Standard, which generates a complete line of continuously repeating "H" pattern was used as the test software.

The program was executed as follows:

a. Turn on the power of all equipment.
b. The EUT reads the test program from the hard disk drive and runs it.
c. The EUT sends "H" pattern to the monitor, and the monitor displays "H" patterns on the screen.
d. The EUT sends signal messages to the modem.
e. The EUT sends signal messages to the internal Hard Disk, and the Hard Disk reads and writes the message.
f. Repeat the steps from c to e.

At the same time, the following programs were executed:

- Executed “ping.exe” to link with the remote workstation to receive and transmit data by RJ45 cable.
- Executed “Winthrax.exe” to read and write data from CF Card.
- Executed "Media player" to play audio.

For ISN test, the EUT Executed “tfgen.exe” to traffic packet data generated software and keep 10% traffic load to link with the remote workstation by RJ45 cable.

< EMS >

At the same time, the following programs under WIN XP were executed:

- Executed “ping.exe” to link with the remote workstation to receive and transmit data by RJ45 cable.
- Executed “Winthrax.exe” to read and write data from CF Card.
- Executed "Media player" to play audio

4. General Information of Test

4.1. Test Facility

<EMI>

Test Site		SPORTON INTERNATIONAL INC.
Test Site Location	:	No. 3, Lane 238, Kang Lo Street, Nei Hwu District, Taipei 11424, Taiwan, R.O.C. TEL : 886-2-2631-4739 FAX : 886-2-2631-9740
Test Site No.	:	CO01-NH, OS03-NH
Test Site Location	:	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiag, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-318-0055
Test Site No.	:	10CH02-HY

<EMS>

Test Site Location	:	3F, No.587, Tanmeu St., Neihu District, Taipei, Taiwan, R.O.C. TEL : 886-2-2794-8886 FAX : 886-2-2794-9777

4.2. Test Voltage

AC 230V / 50Hz

4.3. Measurement Procedure

EMI Test (conduction and radiation)	:	European Standard EN 55022 Class B
Harmonics Test	:	European Standard EN 61000-3-2
Voltage Fluctuations Test	:	European Standard EN 61000-3-3
EMS Test	:	European Standard EN 55024

(ESD: IEC 61000-4-2, RS: IEC 61000-4-3, EFT: IEC 61000-4-4, SURGE: IEC 61000-4-5, CS: IEC 61000-4-6, Power Frequency Magnetic Field: IEC 61000-4-8, DIPS: IEC 61000-4-11)

4.4. Test in Compliance with

EMI Test (conduction and radiation)	:	European Standard EN 55022 Class B
Harmonics Test	:	European Standard EN 61000-3-2
Voltage Fluctuations Test	:	European Standard EN 61000-3-3
EMS Test	:	European Standard EN 55024

(ESD: IEC 61000-4-2, RS: IEC 61000-4-3, EFT: IEC 61000-4-4, SURGE: IEC 61000-4-5, CS: IEC 61000-4-6, Power Frequency Magnetic Field: IEC 61000-4-8, DIPS: IEC 61000-4-11)

4.5. Frequency Range Investigated

a. Conducted emission test: from 150 kHz to 30 MHz
b. Radiated emission test: from 30 MHz to 6,000 MHz
c. Radio frequency electromagnetic field immunity test: 80-1000 MHz

4.6. Test Distance

a. The test distance of radiated emission test from antenna to EUT is 10 M (from 30MHz~1GHz).
b. The test distance of radiated emission test from antenna to EUT is 3 M (from 1GHz~6GHz).
c. The test distance of radio frequency electromagnetic field immunity test from antenna to EUT is 3 M.

5. Test of Conducted Powerline

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 kHz and return leads of the EUT according to the methods defined in European Standard EN 55022 Clause 9. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meter above the ground plane as shown in section 5.3. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position producing maximum conducted emissions.

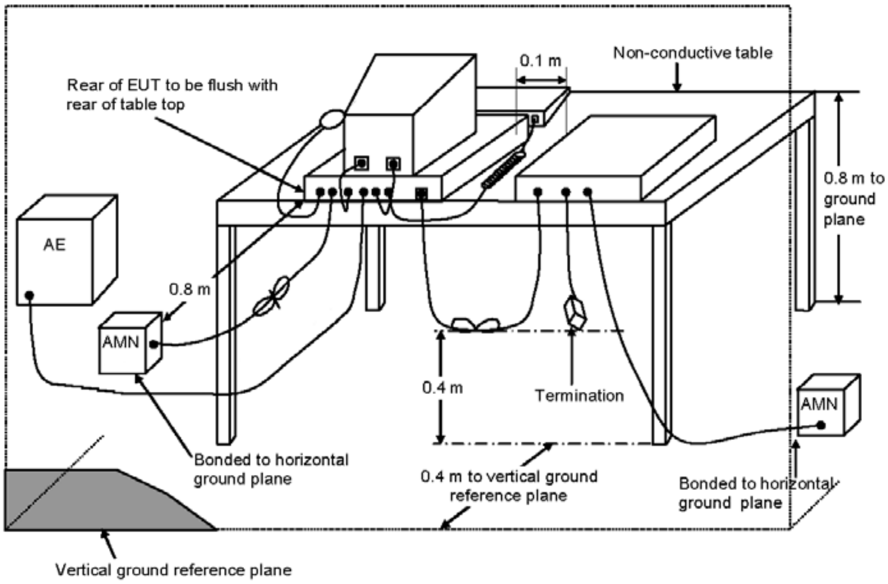
5.1. Description of Major Test Instruments

● Test Receiver	(R&S ESCS 30)
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

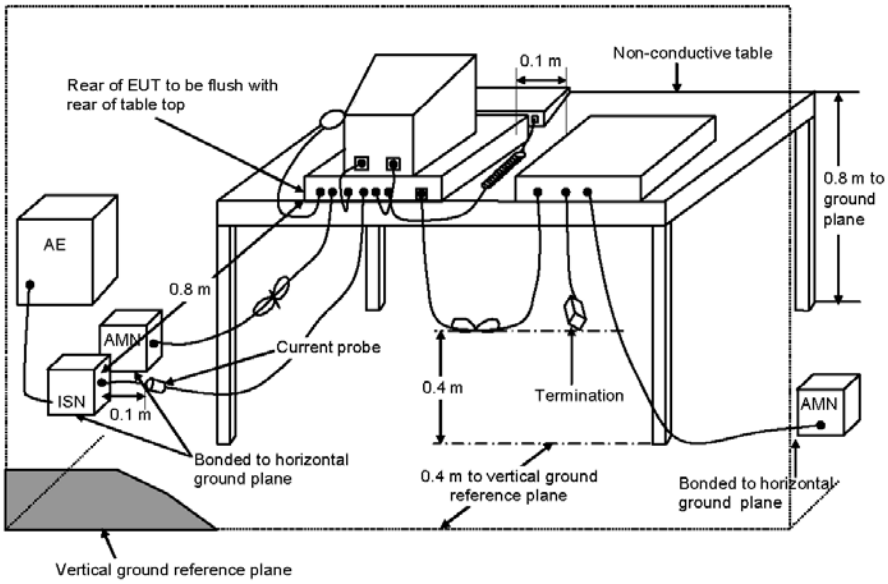
5.2. Test Procedures

a. The EUT was placed on a desk 0.8 meter height from the metal ground plane and 0.4 meter from the conducting wall of the shielding room and it was kept at least 0.8 meter from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. Connect Telecommunication port to ISN (Impedance Stabilization Network).
d. All the support units are connect to the other LISN.
e. The LISN provides 50 ohm, coupling impedance for the measuring instrument.
f. The CISPR states that a 50 ohm, 50 microhenry LISN should be used.
g. Both sides of AC line were checked for maximum conducted interference.
h. The frequency range from 150 kHz to 30 MHz was searched.
i. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

5.3. Typical Test Setup Layout of Conducted Powerline



5.4. Typical Test Setup Layout of disturbances at telecommunication ports



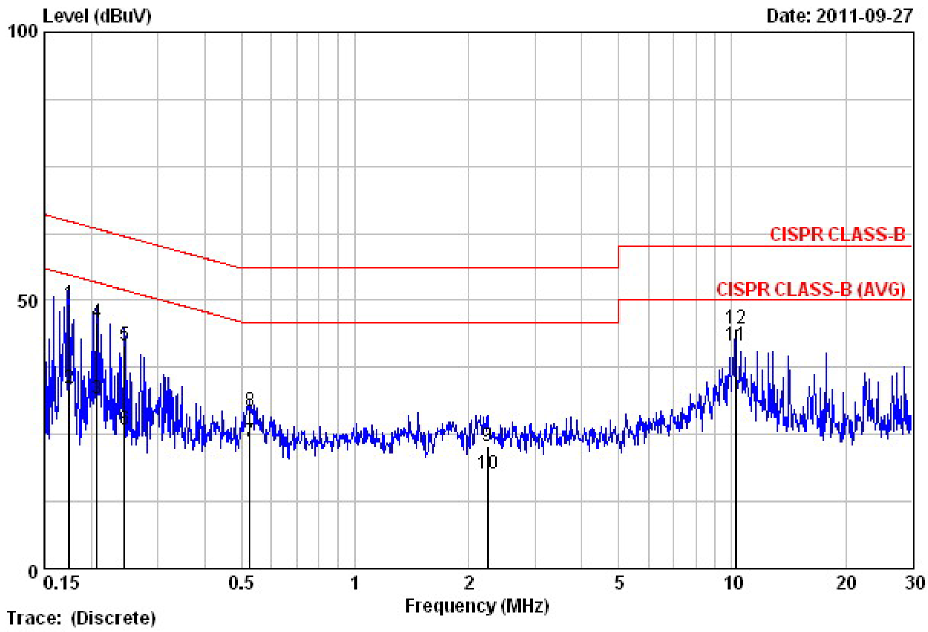
5.5. Test Result of AC Powerline Conducted Emission

Test Mode	Mode 1		
Test Frequency	0.15 MHz ~ 30 MHz	Test Site No.	CO01-NH
Test Voltage	AC 230V / 50Hz	Test Engineer	Eddie
Temperature	25 ℃	Relative Humidity	50 %

Note: 1. Corrected Reading (dBμV) = LISN Factor + Cable Loss + Read Level = Level

2. All emissions not reported here are more than 10 dB below the prescribed limit.

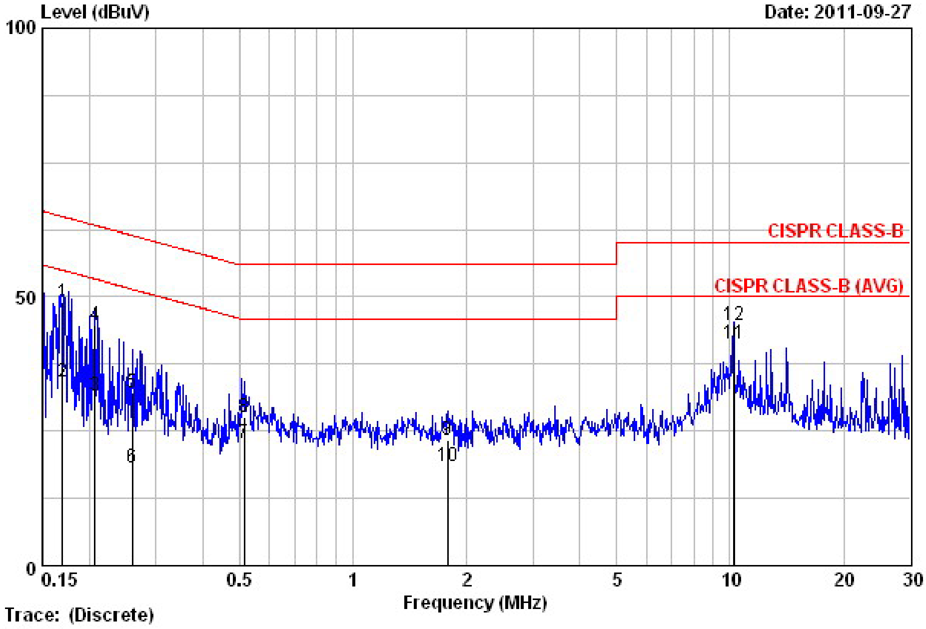
- **The test was passed at the minimum margin that marked by the frame in the following data**



Trace: (Discrete)

Site : CO01-NH
Condition : CISPR CLASS-B 2011-NNB41-04/10153 LINE
eut :
power : AC 230V
memo : MODE 1
memo :
memo :
memo :

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.175	49.33	-15.40	64.72	39.19	10.03	0.10	QP
2	0.175	33.66	-21.07	54.72	23.52	10.03	0.10	AVERAGE
3	0.206	31.53	-21.83	53.36	21.40	10.03	0.10	AVERAGE
4	0.206	45.95	-17.41	63.36	35.82	10.03	0.10	QP
5	0.244	41.45	-20.50	61.95	31.32	10.03	0.10	QP
6	0.244	25.79	-26.16	51.95	15.66	10.03	0.10	AVERAGE
7	0.527	23.53	-22.47	46.00	13.39	10.04	0.10	AVERAGE
8	0.527	29.42	-26.58	56.00	19.28	10.04	0.10	QP
9	2.249	22.86	-33.14	56.00	12.58	10.07	0.20	QP
10	2.249	17.57	-28.43	46.00	7.29	10.07	0.20	AVERAGE
11 @	10.243	41.55	-8.45	50.00	31.16	10.19	0.20	AVERAGE
12	10.243	44.72	-15.28	60.00	34.33	10.19	0.20	QP



Trace: (Discrete)

Site : CO01-NH
Condition : CISPR CLASS-B 2011-NNB41-04/10153 NEUTRAL
eut :
power : AC 230V
memo : MODE 1
memo :
memo :
memo :

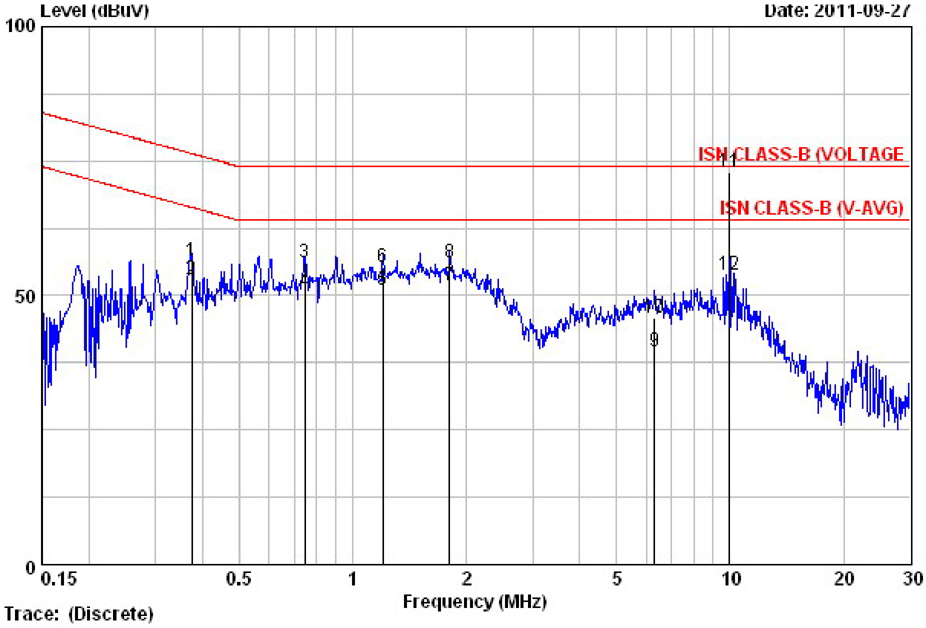
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.169	48.93	-16.06	64.99	38.85	9.98	0.10	QP
2	0.169	34.19	-20.80	54.99	24.11	9.98	0.10	AVERAGE
3	0.206	31.58	-21.78	53.36	21.50	9.98	0.10	AVERAGE
4	0.206	44.64	-18.72	63.36	34.56	9.98	0.10	QP
5	0.260	32.17	-29.26	61.42	22.08	9.98	0.10	QP
6	0.260	18.10	-33.33	51.42	8.01	9.98	0.10	AVERAGE
7	0.514	22.85	-23.15	46.00	12.76	9.99	0.10	AVERAGE
8	0.514	27.58	-28.42	56.00	17.49	9.99	0.10	QP
9	1.781	23.22	-32.78	56.00	13.03	10.01	0.18	QP
10	1.781	18.38	-27.62	46.00	8.19	10.01	0.18	AVERAGE
11	10.245	41.17	-8.83	50.00	30.84	10.13	0.20	AVERAGE
12	10.245	44.82	-15.18	60.00	34.49	10.13	0.20	QP

5.6. Test Result of disturbances at telecommunication ports

Test Mode	Mode 1		
Test Frequency	0.15 MHz ~ 30 MHz	**Test Site No.**	CO01-NH
Test Voltage	AC 230V / 50Hz	**Test Engineer**	Eddie
Temperature	25 ℃	**Relative Humidity**	50 %

Note: 1. Corrected Reading (dBμV) = LISN Factor + Cable Loss + Read Level = Level
2. All emissions not reported here are more than 10 dB below the prescribed limit.

■ **The test was passed at the minimum margin that marked by the frame in the following data**



Trace: (Discrete)

Site : CO01-NH
Condition : ISN CLASS-B (VOLTAGE T400A-20110919
eut :
power : AC 230V
memo : LAN 10M-10%
memo :
memo :
memo :

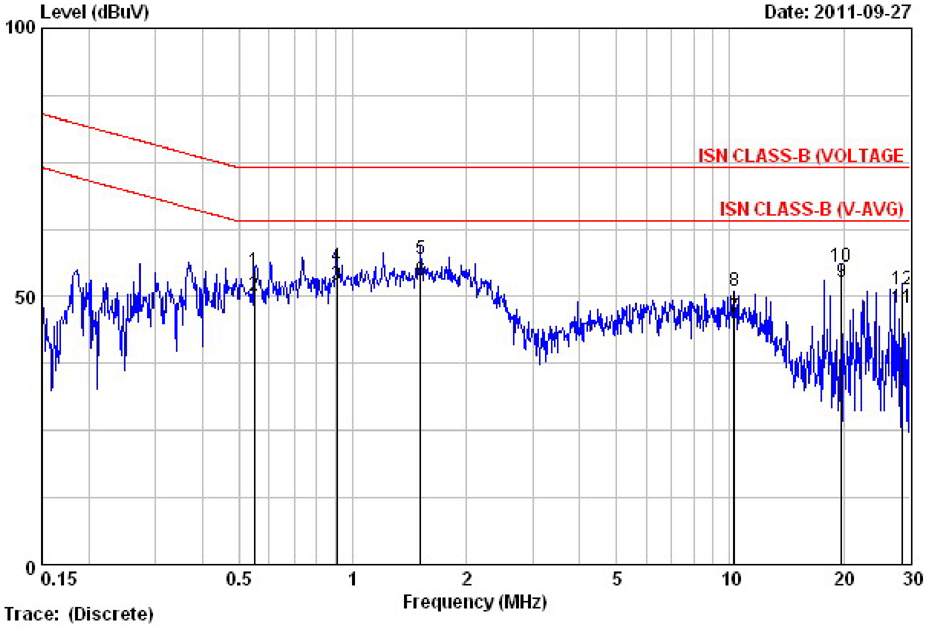
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.373	56.37	-20.06	76.43	46.39	9.88	0.10	QP
2	0.373	53.12	-13.31	66.43	43.14	9.88	0.10	AVERAGE
3	0.747	56.01	-17.99	74.00	46.17	9.74	0.10	QP
4	0.747	50.71	-13.29	64.00	40.87	9.74	0.10	AVERAGE
5	1.203	51.03	-12.97	64.00	41.22	9.68	0.13	AVERAGE
6	1.203	55.15	-18.85	74.00	45.34	9.68	0.13	QP
7	1.810	51.89	-12.11	64.00	42.06	9.64	0.19	AVERAGE
8	1.810	56.05	-17.95	74.00	46.22	9.64	0.19	QP
9	6.319	39.66	-24.34	64.00	29.89	9.57	0.20	AVERAGE
10	6.319	46.01	-27.99	74.00	36.24	9.57	0.20	QP
11 @	10.000	72.81	-1.19	74.00	63.05	9.56	0.20	QP
12	10.000	53.82	-10.18	64.00	44.06	9.56	0.20	AVERAGE

Test Mode	Mode 4		
Test Frequency	0.15 MHz ~ 30 MHz	Test Site No.	CO01-NH
Test Voltage	AC 230V / 50Hz	Test Engineer	Eddie
Temperature	25 ℃	Relative Humidity	50 %

Note: 1. Corrected Reading (dBμV) = LISN Factor + Cable Loss + Read Level = Level

2. All emissions not reported here are more than 10 dB below the prescribed limit.

■ **The test was passed at the minimum margin that marked by the frame in the following data**



Trace: (Discrete)

Site : CO01-NH
Condition : ISN CLASS-B (VOLTAGE T400A-20110919
eut :
power : AC 230V
memo : LAN 100M-10%
memo :
memo :
memo :

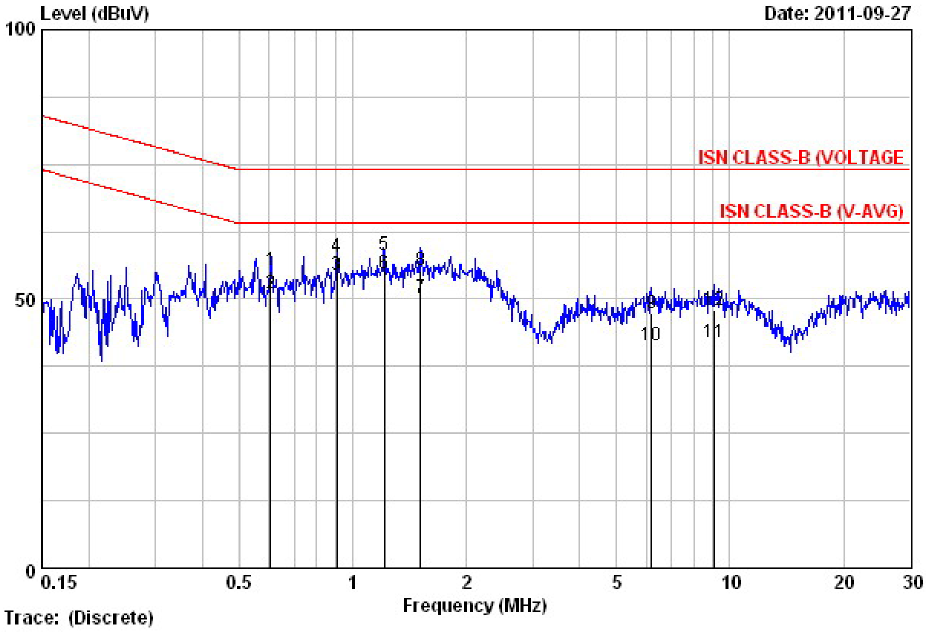
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.549	54.84	-19.16	74.00	44.95	9.79	0.10	QP
2	0.549	50.08	-13.92	64.00	40.19	9.79	0.10	AVERAGE
3	0.909	52.00	-12.00	64.00	42.19	9.71	0.10	AVERAGE
4	0.909	55.49	-18.51	74.00	45.68	9.71	0.10	QP
5	1.511	56.88	-17.12	74.00	47.06	9.66	0.16	QP
6	1.511	52.98	-11.02	64.00	43.16	9.66	0.16	AVERAGE
7	10.246	46.27	-17.73	64.00	36.51	9.56	0.20	AVERAGE
8	10.246	51.07	-22.93	74.00	41.31	9.56	0.20	QP
9	19.709	52.59	-11.41	64.00	42.75	9.55	0.29	AVERAGE
10	19.709	55.58	-18.42	74.00	45.74	9.55	0.29	QP
11	28.684	47.99	-16.01	64.00	38.01	9.58	0.40	AVERAGE
12	28.684	51.35	-22.65	74.00	41.37	9.58	0.40	QP

Test Mode	Mode 5		
Test Frequency	0.15 MHz ~ 30 MHz	Test Site No.	CO01-NH
Test Voltage	AC 230V / 50Hz	Test Engineer	Eddie
Temperature	25 ℃	Relative Humidity	50 %

Note: 1. Corrected Reading (dBμV) = LISN Factor + Cable Loss + Read Level = Level

2. All emissions not reported here are more than 10 dB below the prescribed limit.

■ **The test was passed at the minimum margin that marked by the frame in the following data**



Trace: (Discrete)

Site : CO01-NH
Condition : ISN CLASS-B (VOLTAGE T800-20110919
eut :
power : AC 230V
memo : LAN 1G-10%
memo :
memo :
memo :

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.604	55.13	-18.87	74.00	45.23	9.81	0.10	QP
2	0.604	51.07	-12.93	64.00	41.17	9.81	0.10	AVERAGE
3	0.909	54.35	-9.65	64.00	44.49	9.76	0.10	AVERAGE
4	0.909	57.84	-16.16	74.00	47.98	9.76	0.10	QP
5	1.212	58.03	-15.97	74.00	48.17	9.73	0.13	QP
6	1.212	54.58	-9.42	64.00	44.72	9.73	0.13	AVERAGE
7	1.511	50.19	-13.81	64.00	40.32	9.71	0.16	AVERAGE
8	1.511	55.38	-18.62	74.00	45.51	9.71	0.16	QP
9	6.186	47.30	-26.70	74.00	37.46	9.64	0.20	QP
10	6.186	41.32	-22.68	64.00	31.48	9.64	0.20	AVERAGE
11	9.059	41.85	-22.15	64.00	32.00	9.65	0.20	AVERAGE
12	9.059	47.78	-26.22	74.00	37.93	9.65	0.20	QP

5.7. Photographs of Conducted Powerline and disturbances at telecommunication ports Test Configuration

- The photographs show the configuration that generates the maximum emission.

FRONT VIEW



REAR VIEW



6. Test of Radiated Emission

Radiated emissions from 30 MHz to 6,000 MHz were measured with a bandwidth of 120 kHz for 30 MHz to 1,000 MHz and 1 MHz for above 1GHz according to the methods defines in European Standard EN 55022, Clause 10. The EUT was placed on a nonmetallic stand, 0.8 meter above the ground plane, as shown in section 6.3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions.

6.1. Description of Major Test Instruments

6.1.1. For Below 1GHz

● Amplifier	(HP 8447D)
RF Gain	25 dB
Signal Input	0.1 MHz - 1.3 GHz
● Spectrum Analyzer	(ADVANTEST R3261C)
Attenuation	10 dB
Start Frequency	30 MHz
Stop Frequency	1000 MHz
Resolution Bandwidth	120 kHz
Signal Input	9 kHz – 2.6 GHz
● Test Receiver	(R&S ESCS 30)
Resolution Bandwidth	120 kHz
Frequency Band	9 kHz - 2.75 GHz
Quasi-Peak Detector	ON for Quasi-Peak Mode
	OFF for Peak Mode

6.1.2. For above 1GHz

• Amplifier	(EMCI EMC330)
RF Gain	30 dB
Signal Input	1GHz - 8GHz
• Test Receiver	(R&S ESI)
Attenuation	10 dB
Start Frequency	1000 MHz
Stop Frequency	6000 MHz
Resolution Bandwidth	1 MHz
Signal Input	20 Hz - 7 GHz

6.2. Test Procedures

< Below 1GHz >

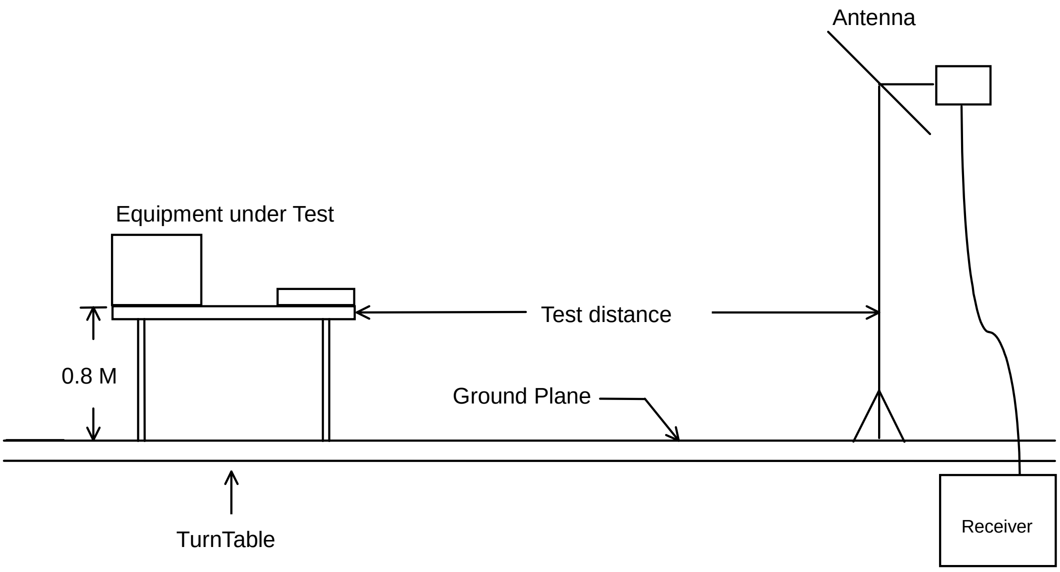
a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 10 meters from the interference-receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna is a half wave dipole and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
f. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.

< Above 1GHz >

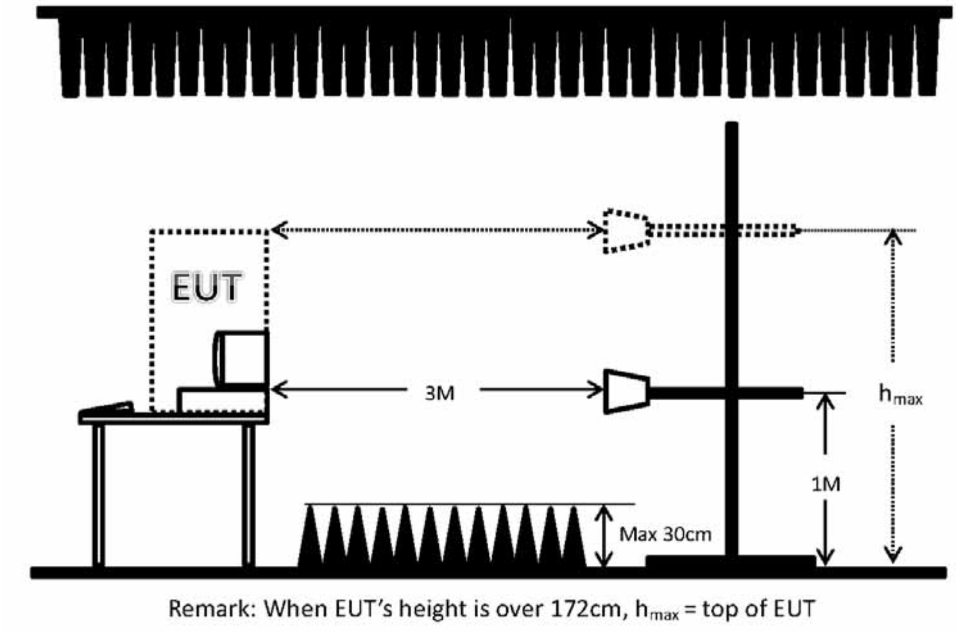
a. Same test set up as below 1GHz radiated testing.
b. The EUT was set 3 meters from the interference-receiving antenna which was mounted on the top of a variable height antenna tower.
c. There should be absorber placed between the EUT and Antenna and its located size should let the test site meet CISPR16-1-4 requirement.
d. The table was rotated 360 degrees to determine the position of the highest radiation.
e. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.
f. Set the DRG Horn Antenna (Model: 3115) at 1M height, then run the turn table to get the maximum noise reading from Horizontal and Vertical polarity separately.
g. When EUT locating on the turn-table, and its height is over 172cm (Antenna's 3dB beam width of 6GHz is 27°), the DRG Horn Antenna must be raised up and descended down, then turning around the turn-table to get the maximum noise reading of the Horizontal and Vertical polarity separately. Note the maximum raise up height is same as the top of EUT.
h. If emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

6.3. Typical Test Setup Layout of Radiated Emission

< Below 1GHz >



< Above 1GHz >



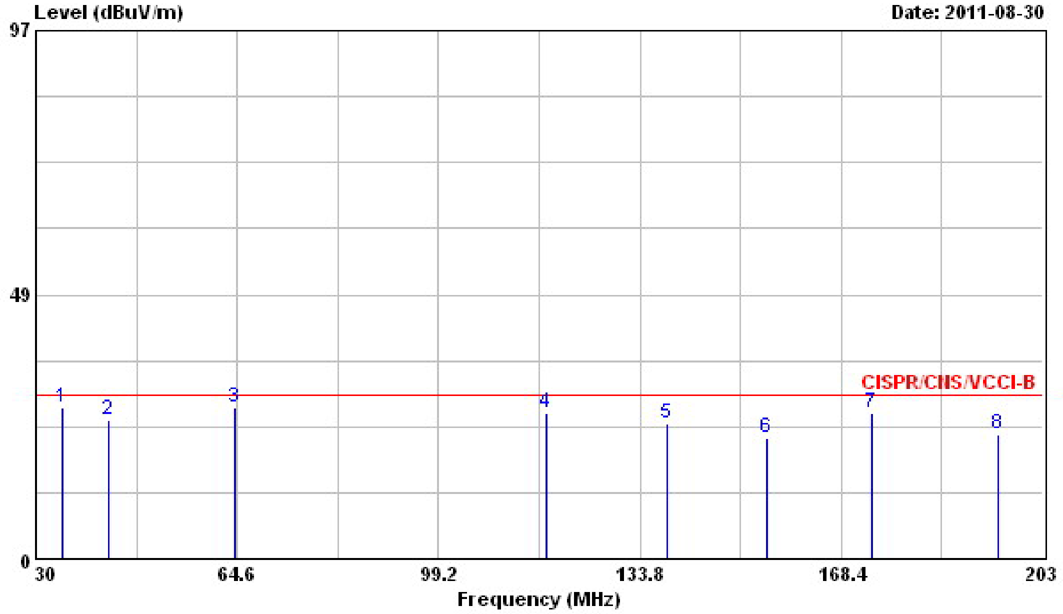
6.4. Test Result of Radiated Emission

Test mode	Mode 1	Test Site No.	OS03-NH
Test frequency	30 MHz ~ 1000 MHz	Test Engineer	Alan
Antenna distance	10 meters	Test Voltage	AC 230V / 50Hz
Temperature	25 ℃	Relative Humidity	51 %

Note: 1. Emission level (dBµV/m) = 20 log Emission level (µV/m)

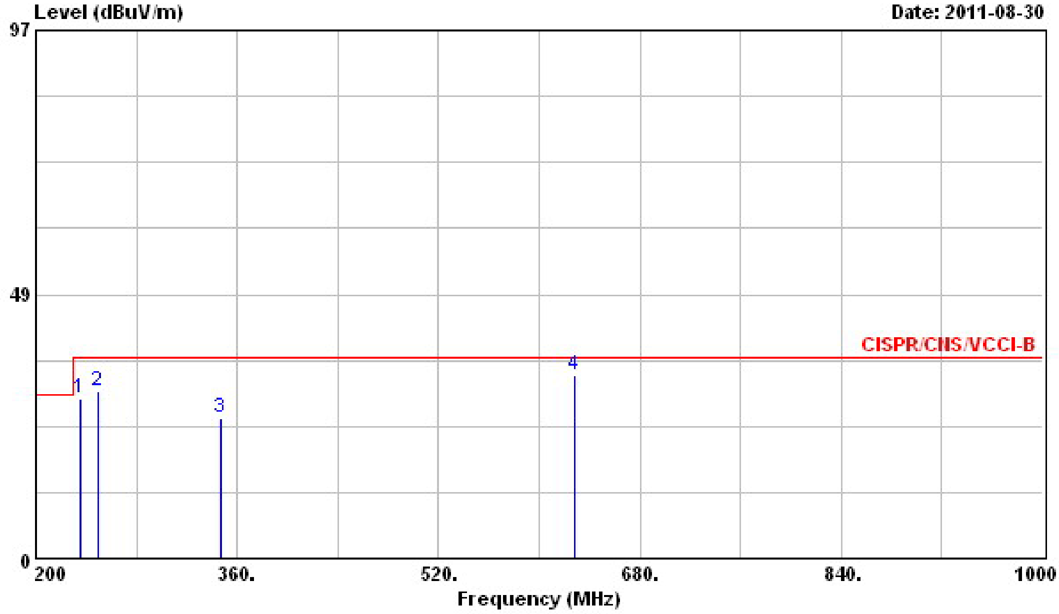
2. Corrected Reading : Antenna Factor + Cable Loss + Read Level – Preamp Factor = Level

■ **The test was passed at the minimum margin that marked by the frame in the following data**



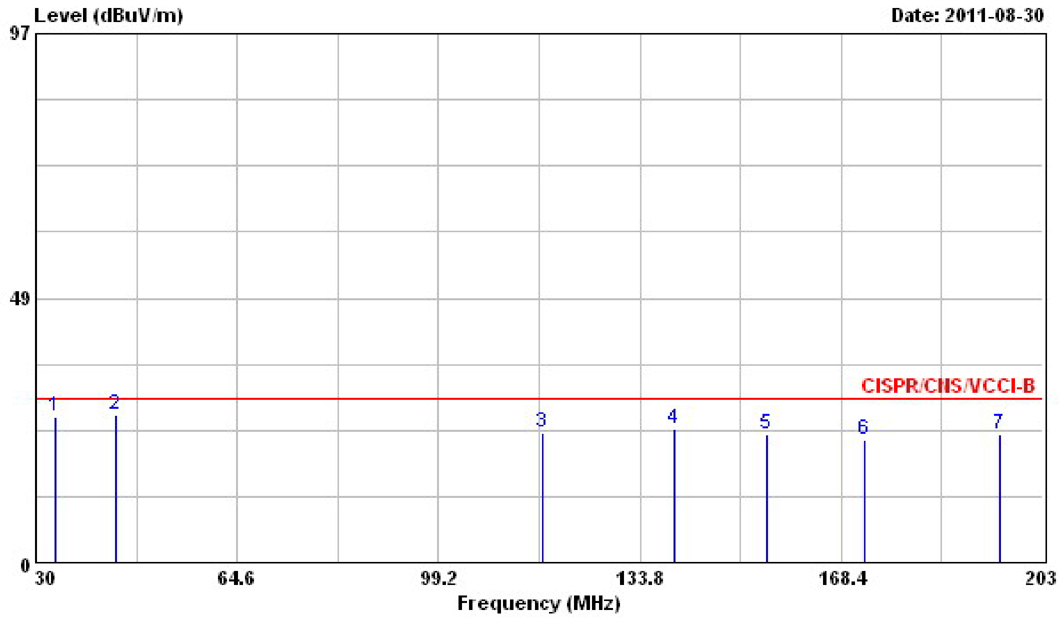
Site : OS03-NH
Condition : CISPR/CNS/VCCI-B 10m OS03-ANT-02-28-2011 VERTICAL
EUT :
POWER : AC 230V
MEMO :

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	34.670	27.60	-2.40	30.00	39.43	15.58	1.10	28.51	QP	---	---
2	42.460	25.32	-4.68	30.00	40.90	11.69	1.22	28.49	QP	---	---
3	64.250	27.72	-2.28	30.00	48.27	6.38	1.51	28.44	QP	---	---
4	117.710	26.71	-3.29	30.00	40.91	12.08	2.01	28.29	QP	---	---
5	138.470	24.68	-5.32	30.00	39.41	11.28	2.19	28.20	QP	---	---
6	155.600	22.15	-7.85	30.00	37.80	10.14	2.34	28.13	QP	---	---
7	173.760	26.94	-3.06	30.00	43.06	9.41	2.52	28.05	Peak	---	---
8	195.220	22.78	-7.22	30.00	38.88	9.20	2.66	27.96	Peak	---	---



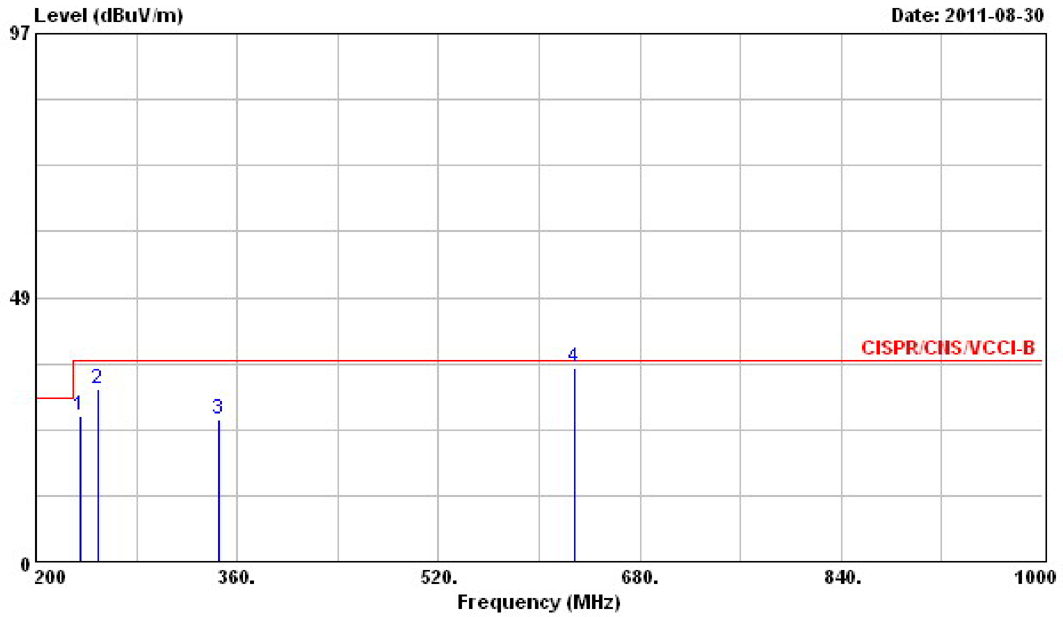
Site : OS03-NH
Condition : CISPR/CNS/VCCI-B 10m OS03-ANT-02-28-2011 VERTICAL
EUT :
POWER : AC 230V
MEMO :

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	235.200	29.46	-7.54	37.00	42.83	11.42	3.09	27.88	Peak	---	---
2	249.600	30.76	-6.24	37.00	43.11	12.26	3.25	27.86	Peak	---	---
3	346.400	25.73	-11.27	37.00	35.42	14.41	4.00	28.10	Peak	---	---
4	628.000	33.69	-3.31	37.00	38.99	18.56	5.28	29.14	Peak	---	---



Site : OS03-NH
Condition : CISPR/CNS/VCCI-B 10m OS03-ANT-02-28-2011 HORIZONTAL
EUT :
POWER : AC 230V
MEMO :

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	33.290	26.71	-3.29	30.00	38.18	15.97	1.07	28.51	Peak	---	---
2	43.670	27.07	-2.93	30.00	42.94	11.38	1.23	28.48	QP	---	---
3	117.020	23.70	-6.30	30.00	37.90	12.08	2.01	28.29	Peak	---	---
4	139.860	24.52	-5.48	30.00	39.31	11.20	2.20	28.19	Peak	---	---
5	155.770	23.54	-6.46	30.00	39.23	10.10	2.34	28.13	Peak	---	---
6	172.380	22.54	-7.46	30.00	38.65	9.44	2.51	28.06	Peak	---	---
7	195.730	23.50	-6.50	30.00	39.60	9.20	2.66	27.96	Peak	---	---



Site : OS03-NH
Condition : CISPR/CNS/VCCI-B 10m OS03-ANT-02-28-2011 HORIZONTAL
EUT :
POWER : AC 230V
MEMO :

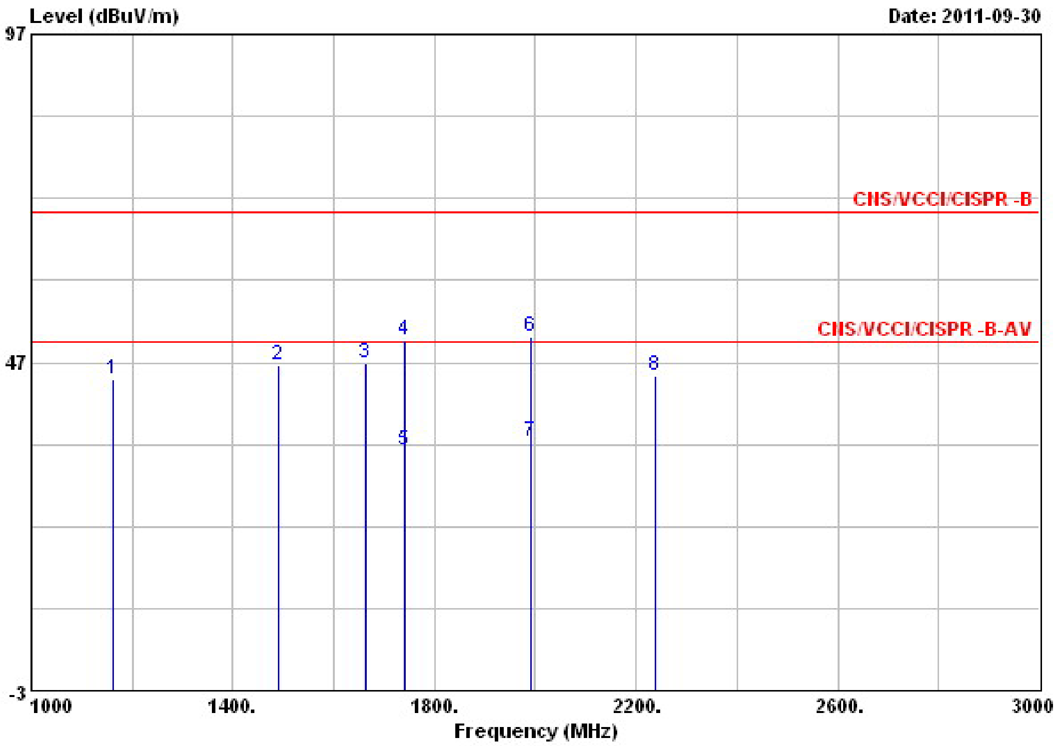
	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB		cm	deg
1	235.200	26.82	-10.18	37.00	40.19	11.42	3.09	27.88	Peak	---	---
2	249.600	31.79	-5.21	37.00	44.14	12.26	3.25	27.86	Peak	---	---
3	345.600	26.26	-10.74	37.00	35.97	14.38	4.00	28.09	Peak	---	---
4	628.000	35.70	-1.30	37.00	41.00	18.56	5.28	29.14	QP	400	180

Test mode	Mode 1	Test Site No.	10CH02-HY
Test frequency	1000 MHz ~ 6000 MHz	Test Engineer	Nicky
Antenna distance	3 meter	Test Voltage	AC 230V / 50Hz
Temperature	25 ℃	Relative Humidity	54 %

Note: 1. Emission level (dBμV/m) = 20 log Emission level (μV/m)

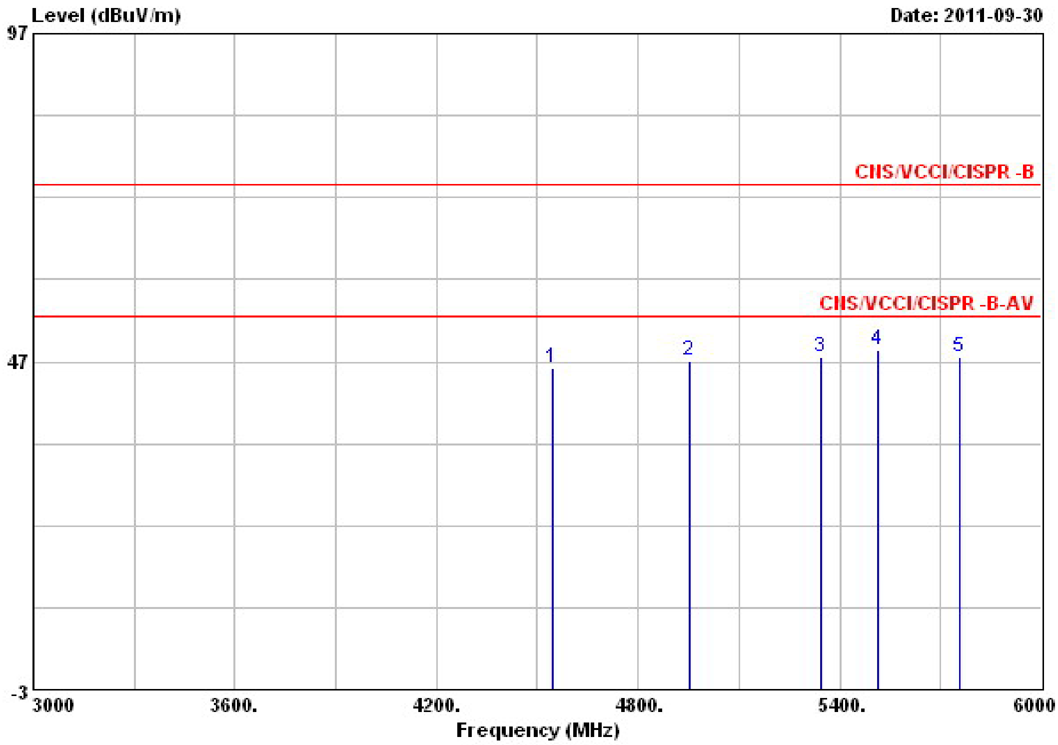
2. Corrected Reading : Antenna Factor + Cable Loss + Read Level – Preamp Factor = Level

■ **The test was passed at the minimum margin that marked by the frame in the following data**



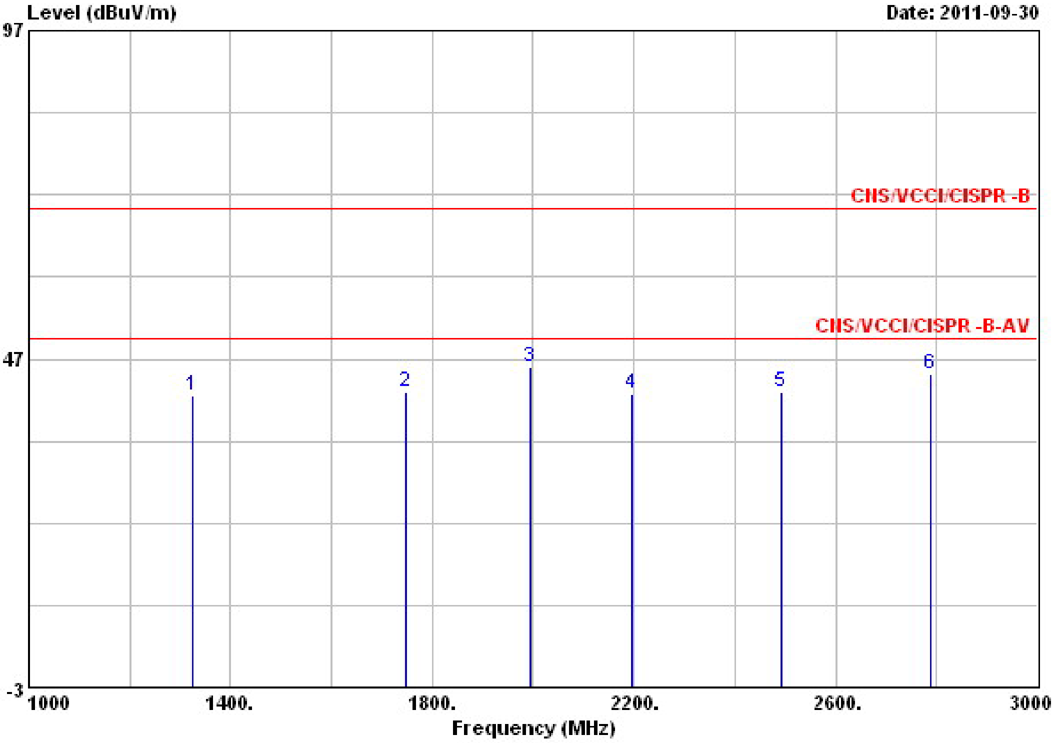
Site : 10CH02-HY
Condition : CNS/VCCI/CISPR -B 3m 6903 HORN 990503 VERTICAL
EUT :
POWER : 230V/50Hz
MODEL :
MEMO : EUT(PAE15)D-SUB : 1920*1200 60Hz + My H
: CF CARD R/W + LAN : 1G+Earphone

	Freq	Level	Over Limit	Limit Line	Read Level	Preamp Factor	Cable Loss	Antenna Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB/m		cm	deg
1	1164.000	44.45	-25.55	70.00	46.89	31.68	4.63	24.61	Peak	---	---
2 @	1492.000	46.62	-23.38	70.00	46.74	30.82	5.30	25.40	Peak	---	---
3 @	1662.000	46.79	-23.21	70.00	46.27	31.03	5.52	26.03	Peak	---	---
4 @	1742.000	50.32	-19.68	70.00	49.46	31.14	5.65	26.35	Peak	---	---
5 @	1742.000	33.66	-16.34	50.00	32.80	31.14	5.65	26.35	Average	100	55
6 @	1990.000	50.95	-19.05	70.00	49.18	31.48	6.01	27.24	Peak	---	---
7 @	1990.000	34.94	-15.06	50.00	33.17	31.48	6.01	27.24	Average	100	180
8	2238.000	45.09	-24.91	70.00	42.23	31.40	6.43	27.83	Peak	---	---



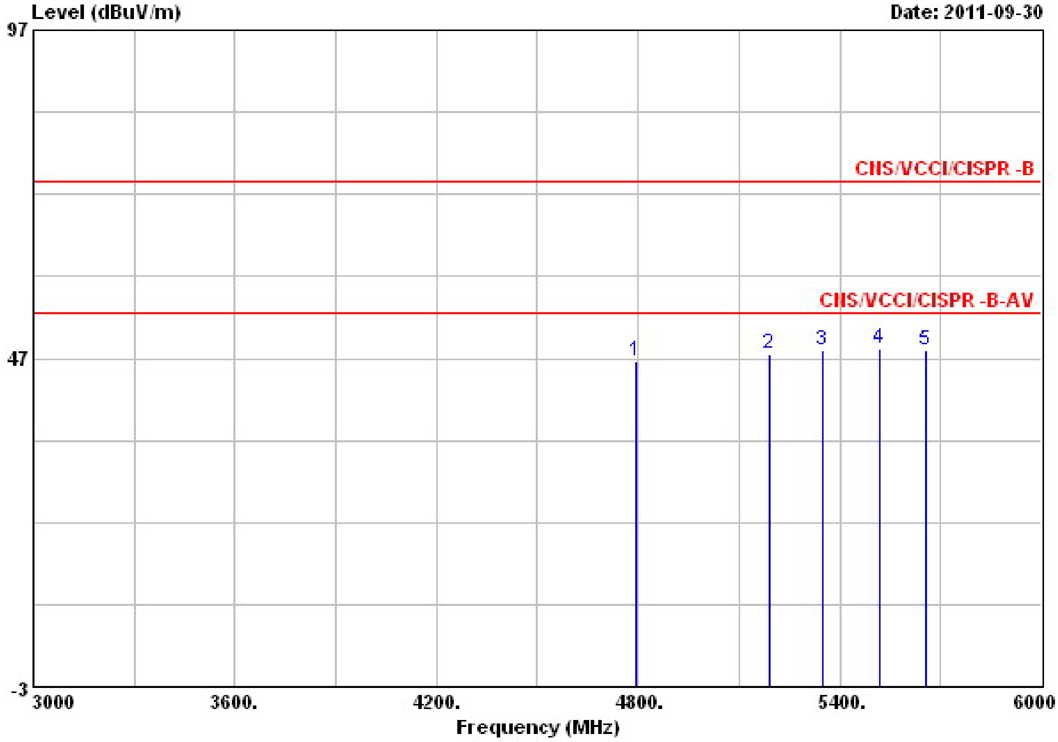
Site : 10CH02-HY
Condition : CNS/VCCI/CISPR -B 3m 6903 HORN 990503 VERTICAL
EUT :
POWER : 230V/50Hz
MODEL :
MEMO : EUT(PAE15)D-SUB : 1920*1200 60Hz + My H
: CF CARD R/W + LAN : 1G+Earphone

	Freq	Level	Over Limit	Limit Line	Read Level	Preamp Factor	Cable Loss	Antenna Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB/m		cm	deg
1	4545.000	45.98	-28.02	74.00	32.91	29.88	10.35	32.60	Peak	---	---
2	4953.000	47.27	-26.73	74.00	33.74	30.72	10.82	33.43	Peak	---	---
3	5346.000	47.71	-26.29	74.00	33.17	31.15	11.84	33.85	Peak	---	---
4	5514.000	48.76	-25.24	74.00	33.79	31.29	12.25	34.01	Peak	---	---
5	5757.000	47.58	-26.42	74.00	32.56	31.04	11.90	34.16	Peak	---	---



Site : 10CH02-HY
Condition : CNS/VCCI/CISPR -B 3m 6903 HORN 990503 HORIZONTAL
EUT :
POWER: 230V/50Hz
MODEL :
MEMO : EUT(PAE15)D-SUB : 1920*1200 60Hz + My H
: CF CARD R/W + LAN : 1G+Earphone

	Freq	Level	Over Limit	Limit Line	Read Level	Preamp Factor	Cable Loss	Antenna Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB/m		cm	deg
1	1326.000	41.34	-28.66	70.00	42.65	31.24	4.94	24.99	Peak	---	---
2	1748.000	42.10	-27.90	70.00	41.25	31.15	5.65	26.35	Peak	---	---
3 @	1996.000	45.87	-24.13	70.00	44.05	31.49	6.01	27.30	Peak	---	---
4	2196.000	41.68	-28.32	70.00	39.01	31.42	6.37	27.72	Peak	---	---
5	2492.000	42.10	-27.90	70.00	38.12	31.30	6.88	28.40	Peak	---	---
6	2790.000	44.77	-25.23	70.00	38.76	30.72	7.25	29.48	Peak	---	---



Site : 10CH02-HY
Condition : CNS/VCCI/CISPR -B 3m 6903 HORN 990503 HORIZONTAL
EUT :
POWER: 230V/50Hz
MODEL :
MEMO : EUT(PAE15)D-SUB : 1920*1200 60Hz + My H
: CF CARD R/W + LAN : 1G+Earphone

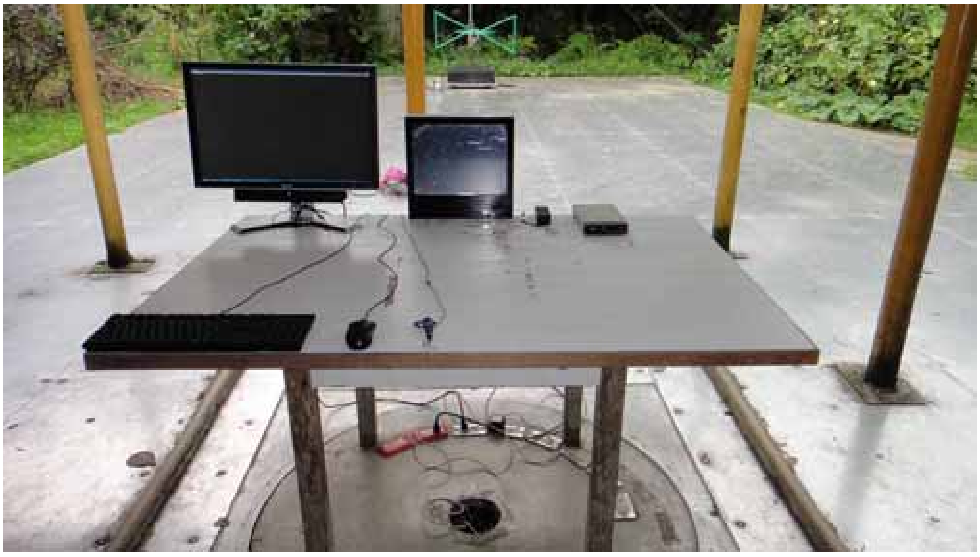
	Freq	Level	Over Limit	Limit Line	Read Level	Preamp Factor	Cable Loss	Antenna Factor	Remark	Ant Pos	Table Pos
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB	dB	dB/m		cm	deg
1	4794.000	46.49	-27.51	74.00	33.15	30.39	10.64	33.09	Peak	---	---
2	5193.000	47.56	-26.44	74.00	33.44	30.99	11.41	33.70	Peak	---	---
3	5349.000	48.30	-25.70	74.00	33.76	31.15	11.84	33.85	Peak	---	---
4	5517.000	48.59	-25.41	74.00	33.62	31.29	12.25	34.01	Peak	---	---
5	5658.000	48.16	-25.84	74.00	33.19	31.15	12.03	34.09	Peak	---	---

6.5. Photographs of Radiated Emission Test Configuration

- The photographs show the configuration that generates the maximum emission.

For Below 1GHz

FRONT VIEW

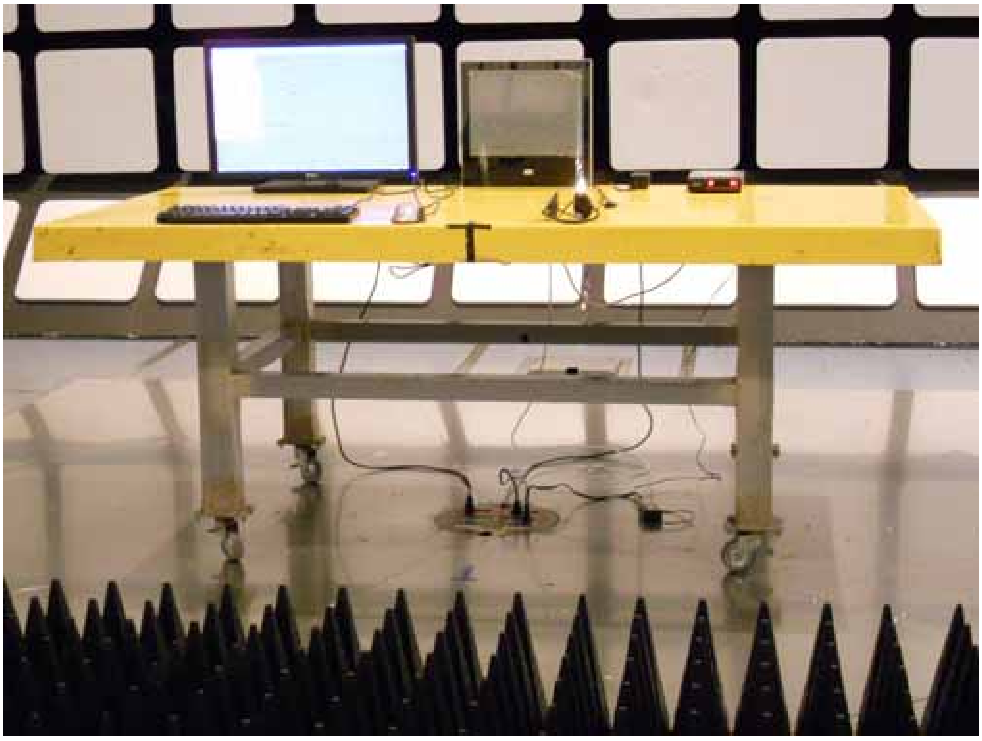


REAR VIEW

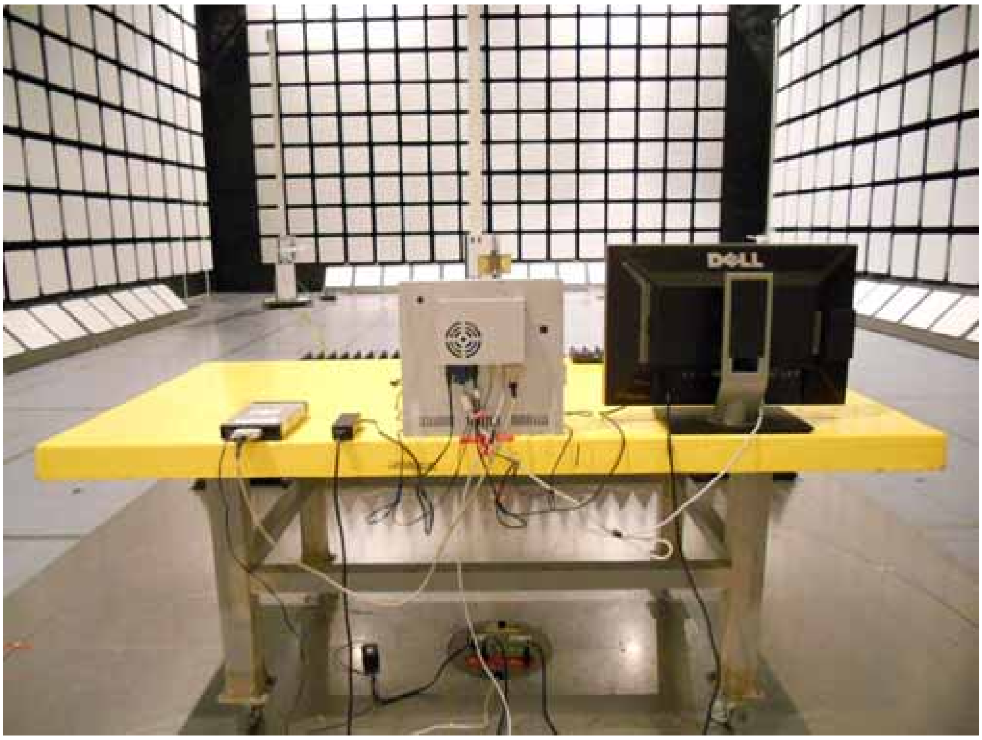


For Above 1GHz

FRONT VIEW



REAR VIEW



7. Harmonics Test

7.1. Standard

- Standard : EN 61000-3-2:2006/A2:2009

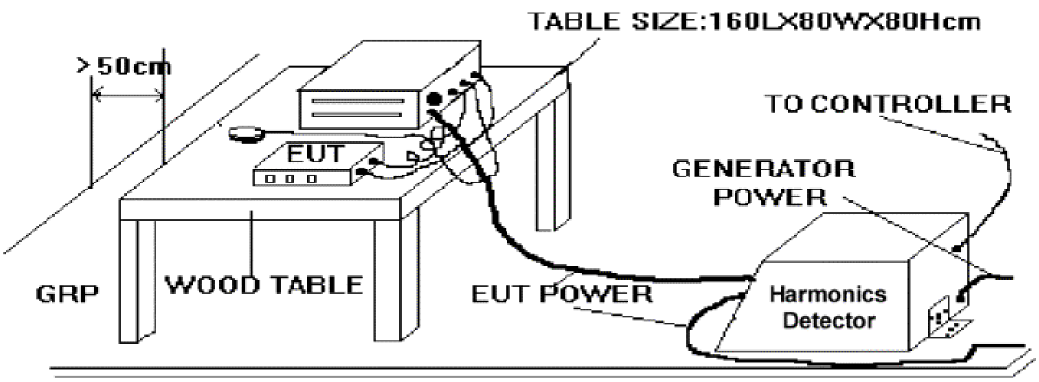
7.2. Test Procedure

The measured values of the harmonics components of the input current, including line current and neutral current, shall be compared with the limits given in Clause 7 of EN 61000-3-2.

7.3. Test Equipment Settings

Line Voltage	:	230 V
Line Frequency	:	50 Hz
Device Class	:	A
Current Measurement Range	:	High
Measurement Delay	:	10.0 seconds
Test Duration	:	10.0 minutes
Class determination Pre-test Duration	:	10.0 seconds

7.4. Test Setup



7.5. Current Harmonics Test

As specified on clause 7 of EN 61000-3-2:2006/A2:2009, the limits are not specified for equipment with a rated power of 75W or less.

The EUT meets the above condition, so it conforms to EN 61000-3-2.

8. Voltage Fluctuations Test

8.1. Standard

- Product Standard : EN 61000-3-3:2008

8.2. Test Procedure

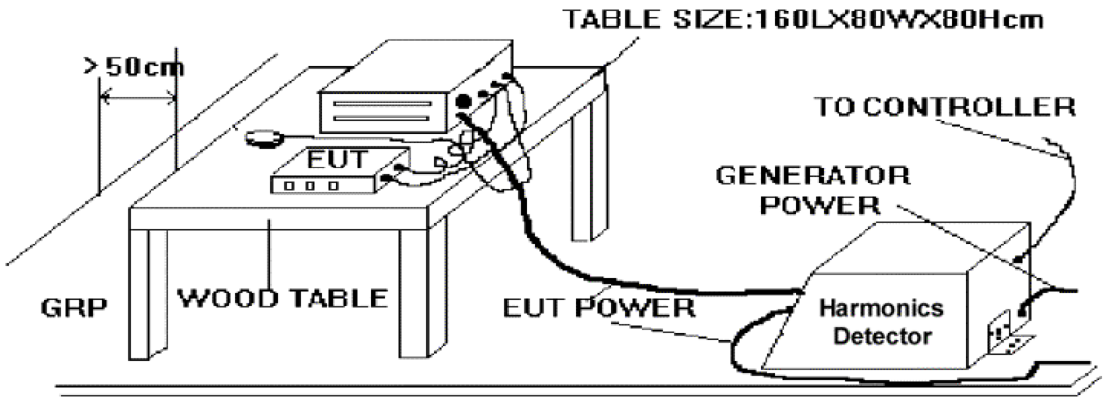
The equipment shall be tested under the conditions of **Clause 5.**

The total impedance of the test circuit, excluding the appliance under test, but including the internal impedance of the supply source, shall be equal to the reference impedance. The stability and tolerance of the reference impedance shall be adequate to ensure that the overall accuracy of ±8% is achieved during the whole assessment procedure.

8.3. Test Equipment Settings

Line Voltage	:	230 V
Line Frequency	:	50 Hz
Measurement Delay	:	10.0 seconds
Pst Integration Time	:	10.0 minutes
Pst Integration Periods	:	1
Test Duration	:	10.0 minutes

8.4. Test Setup



8.5. Test Result of Voltage Fluctuation and Flicker Test

Final Test Result	:	***PASS***
Temperature	:	26 °C
Relative Humidity	:	48 %
Atmospheric Pressure	:	103 kPa
Test Date	:	Oct. 01, 2011
Test Mode	:	PAE15
Test Engineer	:	Yen-Liang Ou

Urms =	230.1V	Freq =	50.000	Range:	2 A
Irms =	0.328A	Ipk =	1.810A	cf =	5.515
P =	27.29W	S =	75.50VA	pf =	0.361

Test - Time : 1 x 10min = 10min (100 %)

LIN (Line Impedance Network) : SLIN 0.24ohm +j0.15ohm N:0.16ohm +j0.10ohm

Limits :	Plt :	0.65	Pst :	1.00
	dmax :	4.00 %	dc :	3.30 %
	dtLim:	3.30 %	dt>Lim:	500ms

Test completed, Result: PASSED

	Pst	P50s	P10s	P3s	P1s	P0.1s	dmax	dc	dt>Lim
1	0.072	0.010	0.010	0.010	0.010	0.010	0.000	0.040	0.000

Final Test Result	:	***PASS***
Temperature	:	26 °C
Relative Humidity	:	48 %
Atmospheric Pressure	:	103 kPa
Test Date	:	Nov. 17, 2011
Test Mode	:	PAE121
Test Engineer	:	Yen-Liang Ou

Urms =	230.1V	Freq =	50.000	Range:	2 A
Irms =	0.209A	Ipk =	1.358A	cf =	6.500
P =	16.49W	S =	48.09VA	pf =	0.343

Test - Time : 1 x 10min = 10min (100 %)

LIN (Line Impedance Network) : SLIN 0.24ohm +j0.15ohm N:0.16ohm +j0.10ohm

Limits :	Plt :	0.65	Pst :	1.00
	dmax :	4.00 %	dc :	3.30 %
	dtLim:	3.30 %	dt>Lim:	500ms

Test completed, Result: PASSED

	Pst	P50s	P10s	P3s	P1s	P0.1s	dmax	dc	dt>Lim
1	0.080	0.010	0.010	0.010	0.010	0.049	0.000	0.060	0.000

Final Test Result	:	***PASS***
Temperature	:	26 °C
Relative Humidity	:	48 %
Atmospheric Pressure	:	103 kPa
Test Date	:	Nov. 17, 2011
Test Mode	:	PAE101
Test Engineer	:	Yen-Liang Ou

Urms =	230.1V	Freq =	50.000	Range:	2 A
Irms =	0.200A	Ipk =	1.220A	cf =	6.093
P =	15.76W	S =	46.07VA	pf =	0.342

Test - Time : 1 x 10min = 10min (100 %)

LIN (Line Impedance Network) : SLIN 0.24ohm +j0.15ohm N:0.16ohm +j0.10ohm

Limits :	Plt :	0.65	Pst :	1.00
	dmax :	4.00 %	dc :	3.30 %
	dtLim:	3.30 %	dt>Lim:	500ms

Test completed, Result: PASSED

	Pst	P50s	P10s	P3s	P1s	P0.1s	dmax	dc	dt>Lim
1	0.072	0.010	0.010	0.010	0.010	0.010	0.000	0.010	0.000

8.6. Photographs of Harmonics Test, Voltage Fluctuation and Flicker Test

FRONT VIEW



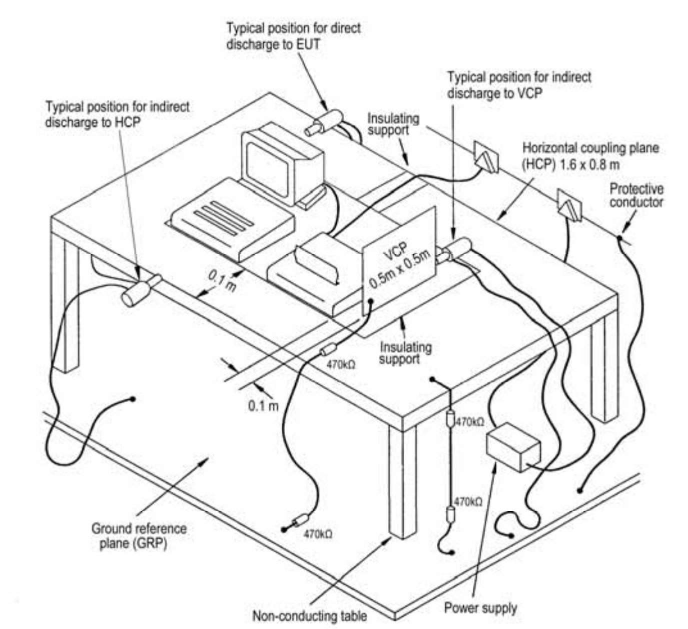
REAR VIEW



9. Electrostatic Discharge Immunity Test (ESD)

- Final Test Result : ***PASS***
- Pass Performance Criteria : ***B***
- Required Performance Criteria : B
- Basic Standard : IEC 61000-4-2:2008
- Product Standard : EN 55024:1998/A1:2001/A2:2003
- Level : 3 for air discharge
  : 2 for contact discharge
- Test Voltage : ±2 / ±4 / ±8 KV for air discharge
  : ±2 / ±4 KV for contact discharge
- Temperature : 26 ℃
- Relative Humidity : 49 %
- Atmospheric Pressure : 103 kPa
- Test Date : Oct. 25, 2011
- Test Engineer : Yen-Liang Ou
- Observation : During the test at contact discharge ±4kV on VGA port, there were noises shown on the screen caused by interference. After the test, the equipment continued to operate as intended without operator intervention.

9.1. Test Setup



The test setup consists of the test generator, EUT and auxiliary instrumentation necessary to perform DIRECT and INDIRECT application of discharges to the EUT as applicable, in the follow manner:

a. CONTACT DISCHARGE to the conductive surfaces and to coupling plane;

b. AIR DISCHARGE at insulating surfaces.

The preferred test method is that of type tests performed in laboratories and the only accepted method of demonstrating conformance with this standard. The EUT was arranged as closely as possible to arrangement in final installed conditions.

9.2. Test Setup for Tests Performed in Laboratory

A ground reference plane was provided on the floor of the test site. It was a metallic sheet (copper or aluminum) of 0.25 mm, minimum thickness; other metallic may be used but they shall have at least 0.65 mm thickness. In the SPORTON EMC LAB., we provided 1 mm thickness aluminum ground reference plane or 1 mm thickness stainless steel ground reference plane. The minimum size of the ground reference plane is 1 m x 1 m, the exact size depending on the dimensions of the EUT. It was connected to the protective grounding system.

The EUT was arranged and connected according to its functional requirements. A distance of 1 m minimum was provided between the EUT and the wall of the Lab., and any other metallic structure. In cases where this length exceeds the length necessary to apply the discharges to the selected points, the excess length shall, where possible, be placed non-inductively off the ground reference plane and shall not come closer than 0.2 m to other conductive parts in the test setup.

Where the EUT is installed on a metal table, the table was connected to the reference plane via a cable with a 470k ohm resister located at each end, to prevent a build-up of charge. The test setup was consist a wooden table, 0.8 m high, standing on the ground reference plane. A HCP, 1.6 m x 0.8 m, was placed on the table. The EUT and cables was isolated from the HCP by an insulating support 0.5 mm thick. The VCP size, 0.5 m x 0.5 m.

9.3. ESD Test Procedure

a. In the case of air discharge testing the climatic conditions shall be within the following ranges:
- ambient temperature: 15 °C to 35 °C;
- relative humidity : 30 % to 60 %;
- atmospheric pressure : 86 kPa (860 mbar) to 106 kPa (1060 mbar).

b. Test programs and software shall be chosen so as to exercise all normal modes of operation of the EUT. The use of special exercising software is encouraged, but permitted only where it can be shown that the EUT is being comprehensively exercised.

c. The test voltage shall be increased from the minimum to the selected test severity level, in order to determine any threshold of failure. The final severity level should not exceed the product specification value in order to avoid damage to the equipment.

d. The test shall be performed with both air discharge and contact discharge. On preselected points at least 10 single discharges (in the most sensitive polarity) shall be applied on air discharge. On preselected points at least 25 single discharges (in the most sensitive polarity) shall be applied on contact discharge.

e. For the time interval between successive single discharges an initial value of one second is recommended. Longer intervals may be necessary to determine whether a system failure has occurred.

f. In the case of contact discharges, the tip of the discharge electrode shall touch the EUT before the discharge switch is operated.

g. In the case of painted surface covering a conducting substrate, the following procedure shall be adopted:
- If the coating is not declared to be an insulating coating by the equipment manufacturer, then the pointed tip of the generator shall penetrate the coating so as to make contact with the conducting substrate.
- Coating declared as insulating by the manufacturer shall only be submitted to the air discharge.
- The contact discharge test shall not be applied to such surfaces.

h. In the case of air discharges, the round discharge tip of the discharge electrode shall be approached as fast as possible (without causing mechanical damage) to touch the EUT. After each discharge, the ESD generator (discharge electrode) shall be removed from the EUT. The generator is then retriggered for a new single discharge. This procedure shall be repeated until the discharges are completed. In the case of an air discharge test, the discharge switch, which is used for contact discharge, shall be closed.

9.4. Test Severity Levels

9.4.1. Contact Discharge

Level	Test Voltage (KV) of Contact discharge
1	±2
2	±4
3	±6
4	±8
X	Specified
Remark : “X” is an open level.	

9.4.2. Air Discharge

Level	Test Voltage (KV) of Air Discharge
1	±2
2	±4
3	±8
4	±15
X	Specified
Remark : “X” is an open level.	

9.5. Test Points

9.5.1. Test Result of Air Discharge

Test Method	No. Of Discharges	Air Discharge/Round Tip						Test Record
		+2kV	-2kV	+4kV	-4kV	-8kV	+8kV	
POWER SW	10	ND	ND	ND	ND	ND	ND	Note [1]
Earphone Jack	10	A	A	A	A	A	A	None
AC SOCKET	10	ND	ND	ND	ND	ND	ND	Note [1]
DC INPUT JACK	10	A	A	A	A	A	A	None
CF CARD	10	ND	ND	ND	ND	ND	ND	Note [1]
PANEL	10	ND	ND	ND	ND	ND	ND	Note [1]
Remark	1. The “ND” is means No Discharge.							

9.5.2. Test Result of Contact Discharge

9.5.2.1 Direct discharge

Test Method	No. Of Discharges	Contact Discharge/Pointed Tip				Test Record
		+2kV	-2kV	+4kV	-4kV	
CASE	25	A	A	A	A	None
SCREW	25	A	A	A	A	None
VGA	25	A	A	B	B	Note [1]
COM PORT	25	A	A	A	A	None
RJ45 PORT	25	A	A	A	A	None
USB PORT	25	A	A	A	A	None
Remark	1. During the test at contact discharge ±4kV on VGA port, there were noises shown on the screen caused by interference. After the test, the equipment continued to operate as intended without operator intervention.					

9.5.2.2 Indirect discharge to HCP and VCP

Test Method	No. Of Discharges	Contact Discharge/Pointed Tip				Test Record
		+2kV	-2kV	+4kV	-4kV	
HCP (At Front)	25	A	A	A	A	None
HCP (At Left)	25	A	A	A	A	None
HCP (At Right)	25	A	A	A	A	None
HCP (At Rear)	25	A	A	A	A	None
VCP (At Front)	25	A	A	A	A	None
VCP (At Left)	25	A	A	A	A	None
VCP (At Right)	25	A	A	A	A	None
VCP (At Rear)	25	A	A	A	A	None

9.6. Photographs of Electrostatic Discharge Immunity Test

FRONT VIEW



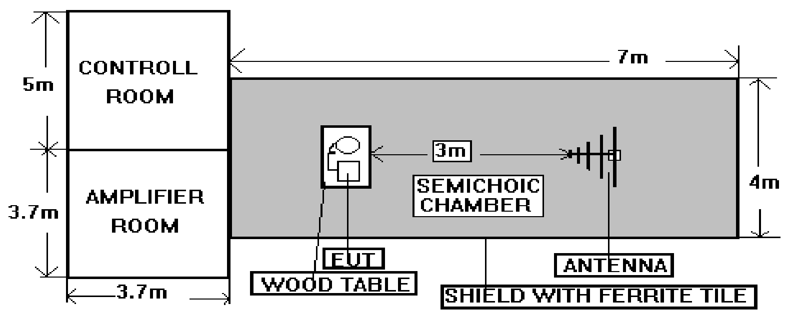
REAR VIEW



10. Radio Frequency Electromagnetic Field Immunity Test (RS)

- Final Test Result : ***PASS***
- Pass Performance Criteria : ***A***
- Required Performance Criteria : A
- Basic Standard : IEC 61000-4-3:2006/A1:2007/A2:2010
- Product Standard : EN 55024:1998/A1:2001/A2:2003
- Level : 2
- Frequency Range : 80-1000 MHz
- Dwell Time : 2.9 seconds
- Field Strength : 3 V/m (unmodulated, r.m.s) 80% AM (1 kHz)
- Temperature : 26 ℃
- Relative Humidity : 48 %
- Atmospheric Pressure : 103 kPa
- Test Date : Oct. 25, 2011
- Test Engineer : Yen-Liang Ou
- Observation : Normal.

10.1. Test Setup



NOTE : The SPORTON 7m x 4m x 4m semi-anechoic chamber is compliance with the sixteen point's uniform field requirement as stated in IEC 1000-4-3 Section 6.2.

The procedure defined in this part requires the generation of electromagnetic fields within which the test sample is placed and its operation observed. To generate fields that are useful for simulation of actual (field) conditions may require significant antenna drive power and the resultant high field strength levels. To comply with local regulations and to prevent biological hazards to the testing personnel, it is recommended that these tests be carried out in a shielded enclosure or semi-anechoic chamber.

10.2. Test Procedure

a. The equipment to be tested is placed in the center of the enclosure on a wooden table. The equipment is then connected to power and signal leads according to pertinent installation instructions.

b. The bilog antenna which is enabling the complete frequency range of 80-1000MHz is placed 3m away from the equipment. The required field strength is determined by placing the field strength meter(s) on top of or directly alongside the equipment under test and monitoring the field strength meter via a remote field strength indicator outside the enclosure while adjusting the continuous-wave to the applicable antennae.

c. The test is normally performed with the generating antenna facing each of four sides of the EUT. The polarization of the field generated by the broadband (bilog) antenna necessitates testing each position twice, once with the antenna positioned vertically and again with the antenna positioned horizontally.

d. The dwell time at each frequency shall not be less than the time necessary for the EUT to be exercised, and able to respond. Sensitive frequencies e.g. clock frequency(ies) and harmonics or frequencies of dominant interest shall be analyzed separately.

e. At each of the above conditions, the frequency range is swept 80-1000MHz, pausing to adjust the R.F. signal level or to switch oscillators and antenna. The rate of sweep is in the order of 1.5*10-3 decades/s. The sensitive frequencies or frequencies of dominant interest may be discretely analyzed.

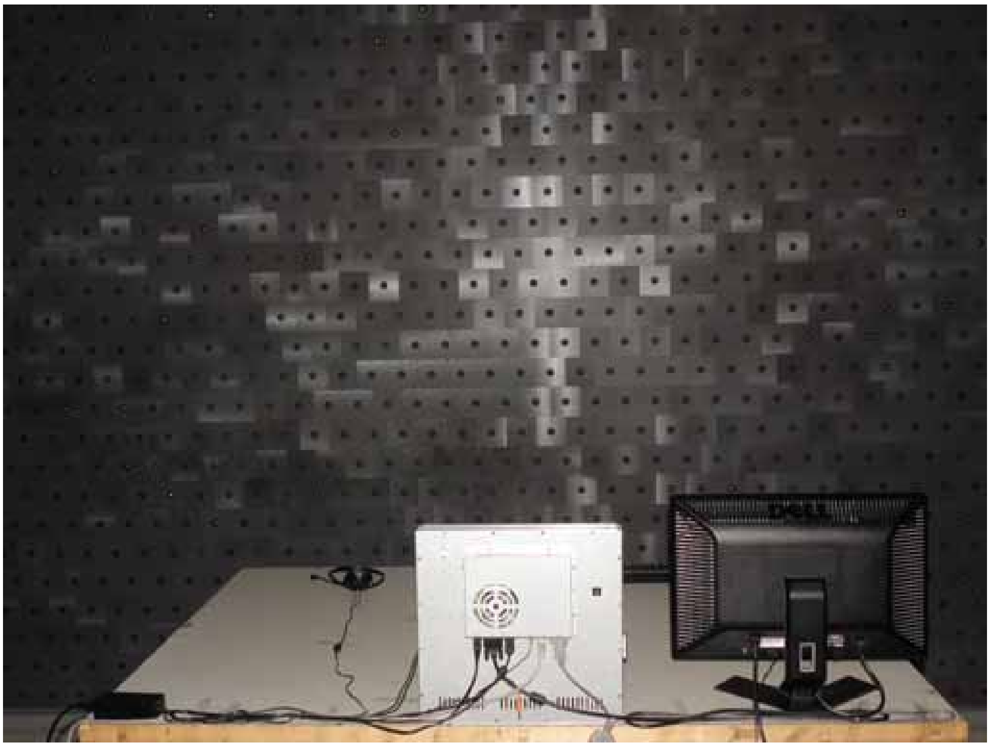
10.3. Test Severity Levels

Frequency Band : 80-1000MHz

Level	Test field strength (V/m)
1	1
2	3
3	10
X	Specified
Remark : “X” is an open class.	

10.4. Photographs of Radio Frequency Electromagnetic Field Immunity Test

FRONT VIEW



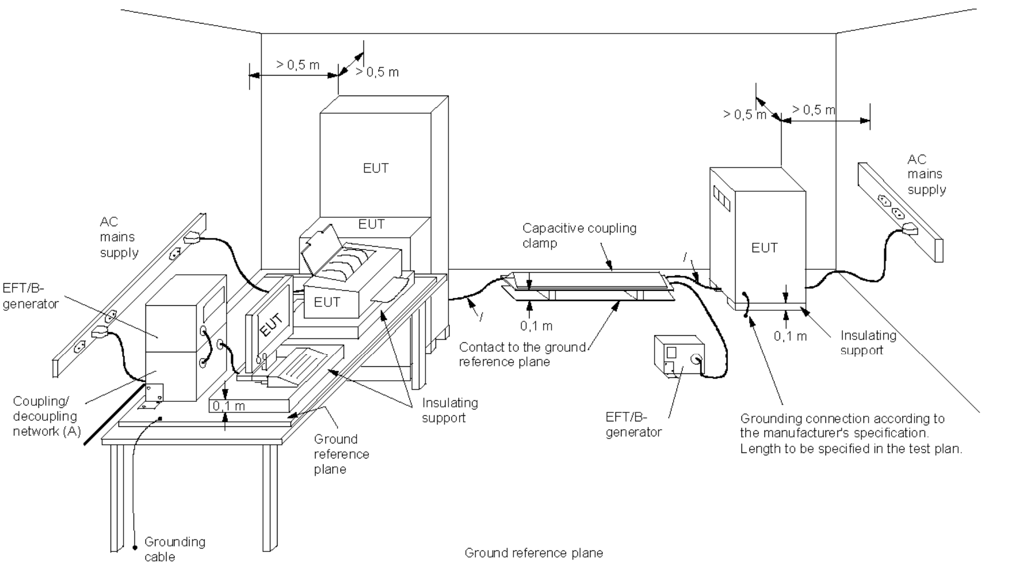
REAR VIEW



11. Electrical Fast Transient/Burst Immunity Test (EFT/BURST)

- Final Test Result : ***PASS***
- Pass Performance Criteria : ***B***
- Required Performance Criteria : B
- Basic Standard : IEC 61000-4-4:2004
- Product Standard : EN 55024:1998/A1:2001/A2:2003
- Level : on Input power ports -- 2
  : on signal port and telecommunication ports -- 2
- Test Voltage : on Input power ports -- ±0.5 / ±1.0 kV
  : on signal port and telecommunication ports -- ±0.25 / ±0.5 kV
- Temperature : 26 ℃
- Relative Humidity : 48 %
- Atmospheric Pressure : 103 kPa
- Test Date : Oct. 25, 2011
- Test Engineer : Yen-Liang Ou
- Observation : During the test at ±1kV on the L1, L2 and PE Line, there were noises caused by interference. After the test, the equipment continued to operate as intended without operator intervention.

11.1. Test setup



Key

l length between clamp and the EUT to be tested (should be 0,5 m ± 0,05 m)

(A) location for supply line coupling

(B) location for signal lines coupling

The EUT was placed on a ground reference plane and was insulated from it by an insulating support about 0.1 m thick. If the EUT is table-top equipment, it was located approximately 0.8 m above the GRP. The GRP. Was a metallic sheet (copper or aluminum) of 0.25 mm, minimum thickness; other metallic may be used but they shall have at least 0.65 mm thickness. It shall project beyond the EUT by at least 0.1 m on all sides and connected to the protective earth. In the SPORTON EMC LAB., We provided 1 mm thickness aluminum ground reference plane or 1 mm thickness stainless steel ground reference plane. The minimum size of the ground reference plane is 1 m x 1 m, the exact size depending on the dimensions of the EUT. It was connected to the protective grounding system. The EUT was arranged and connected according to its functional requirements. The minimum distance between the EUT and other conductive structures, except the GRP. Beneath the EUT, was more than 0.5 m. using the coupling clamp, the minimum distance between the coupling plates and all other conductive structures, except the GRP. Beneath the EUT, was more than 0.5 m. The length of the signal and power lines between the coupling device and the EUT was 1 m or less.

11.2. Test on Power Line

a. The EFT/B-generator was located on the GRP. The length from the EFT/B-generator to the EUT as not exceeds 1 m.

b. The EFT/B-generator provides the ability to apply the test voltage in a non-symmetrical condition to the power supply input terminals of the EUT.

11.3. Test on Communication Lines

a. The coupling clamp is composed of a clamp unit for housing the cable (length more than 3 m), and was placed on the GRP.

b. The coupling clamp provides the ability of coupling the fast transient/bursts to the cable under test.

11.4. Test Procedure

a. In order to minimize the effect of environmental parameters on test results, the climatic conditions when test is carrying out shall comply with the following requirements:
- ambient temperature: 15 ˚C to 35 ˚C;
- relative humidity : 45 ％ to 75 ％;
- atmospheric pressure : 86 kPa (860 mbar) to 106 kPa (1060 mbar).

b. In order to minimize the effect of environmental parameters on test results, the electromagnetic environment of the laboratory shall not influence the test results.

c. The variety and diversity of equipment and systems to be tested make it difficult to establish general criteria for the evaluation of the effects of fast transients/bursts on equipment and systems.

d. The test results may be classified on the basic of the operating conditions and the functional specification of the equipment under test, according to the following performance criteria :
- Normal performance within the specification limits.
- Temporary degradation or loss of function or performance which is self-recoverable.
- Temporary degradation or loss of function or performance which requires operator intervention or system reset.
- Degradation or loss of function which is not recoverable due to damage of equipment (components).

11.5. Test Severity Levels

The following test severity levels are recommended for the fast transient/burst test :

Open circuit output test voltage ± 10%		
Level	**On Input power ports**	**On signal port and telecommunication ports**
1	0.5 KV	0.25 KV
2	1.0 KV	0.50 KV
3	2.0 KV	1.00 KV
4	4.0 KV	2.00 KV
X	Specified	Specified
Remark : " X " is an open level. The level is subject to negotiation between the user and the manufacturer or is specified by the manufacturer.		

11.6. Photographs of Electrical Fast Transient/BURST Immunity Test

FRONT VIEW



REAR VIEW



CLAMP



12. Surge Immunity Test

- Final Test Result : ***PASS***
- Pass Performance Criteria : ***B***
- Required Performance Criteria : B
- Basic Standard : IEC 61000-4-5:2005
- Product Standard : EN 55024:1998/A1:2001/A2:2003
- Surge wave form (Tr/Th) : 1, 2/50 (8/20) μs
- Level : on Input power ports -- 3
  : on signal port and telecommunication ports -- 2
- Test Voltage : on Input power ports -- ±0.5 / ±1.0 / ±2.0 kV
  : on signal port and telecommunication ports -- ±0.5 / ±1.0 kV
- Temperature : 26 ℃
- Relative Humidity : 48 %
- Atmospheric Pressure : 103 kPa
- Test Date : Oct. 25, 2011
- Test Engineer : Yen-Liang Ou
- Observation : During the test, the ping loss. After the test, the equipment continued to operate as intended without operator intervention.

12.1. Test Record

- Input AC power port:

Voltage (KV)	Test Location	Polarity	Phase Angle				Remark
			0°	90°	180°	270°	
0.5/1.0	L - N	+	A	A	A	A	Normal
		−	A	A	A	A	Normal
0.5/1.0/2.0	L - PE	+	A	A	A	A	Normal
		−	A	A	A	A	Normal
	N - PE	+	A	A	A	A	Normal
		−	A	A	A	A	Normal

⌖ *Remark : PE = Earth reference*

■ Ports for signal port and telecommunication port:

Tested on	Polarity	Phase Angle	No of Pulse	Pulse Volta	Sec. / 1 Pulse	Test Result
Line-G	+	–	5	0.5 / 1.0 KV	60	Refer Observation
Line-G	–	–	5	0.5 / 1.0 KV	60	Refer Observation

12.2. Test Level

Level	Open-circuit test voltage, ± 10%, KV
1	0.5
2	1.0
3	2.0
4	4.0
x	Specified
NOTE - x is an open class. This level can be specified in the product specification.	

12.3. Test Procedure

a. Climatic conditions

The climatic conditions shall comply with the following requirements :

-- ambient temperature : 15 °C to 35 °C

-- relative humidity : 10 % to 75 %

-- atmospheric pressure : 86 kPa to 106 kPa (860 mbar to 1060 mbar)

b. Electromagnetic conditions

The electromagnetic environment of the laboratory shall not influence the test results.

c. The test shall be performed according the test plan that shall specify the test set-up with

-- generator and other equipment utilized;

-- test level (voltage/current);

-- generator source impedance;

-- internal or external generator trigger;

-- number of tests : at least five positive and five negative at the selected points;

-- repetition rate : maximum 1/min.

-- inputs and outputs to be tested;

-- representative operating conditions of the EUT;

-- sequence of application of the surge to the circuit;

-- phase angle in the case of a.c. power supply;

-- actual installation conditions, for example :
AC : neutral earthed,
DC : (+) or (-) earthed to simulated the actual earthing conditions.

d. If not otherwise specified the surges have to be applied synchronized to the voltage phase at the zero-crossing and the peak value of the a.c. voltage wave (positive and negative).

e. The surges have to be applied line to line and line(s) and earth. When testing line to earth, the test voltage has to be applied successively between each of the lines and earth, if there is no other specification.

f. The test procedure shall also consider the non-linear current-voltage characteristics of the equipment under test. Therefore the test voltage has to be increased by steps up to the test level specified in the product standard or test plan.

g. All lower levels including the selected test level shall be satisfied. For testing the secondary protection, the output voltage of the generator shall be increased up to the worst-case voltage breakdown level (let-through level) of the primary protection.

h. If the actual operating signal sources are not available, the may be simulated. Under no circumstances may the test level exceed the product specification. The test shall be carried out according the test plan.

i. To find all critical points of the duty cycle of the equipment, a sufficient number of positive and negative test pulses shall be applied. For acceptance test previously unstressed equipment shall be used to the protection devices shall be replaced.

12.4. Operating Condition

Full system

12.5. Photographs of Surge Immunity Test

FRONT VIEW



REAR VIEW



13. Conducted Disturbances Induced by Radio-Frequency Field Immunity Test (CS)

- Final Test Result : ***PASS***
- Pass Performance Criteria : ***A***
- Required Performance Criteria : A
- Basic Standard : IEC 61000-4-6:2008
- Product Standard : EN 55024:1998/A1:2001/A2:2003
- Level : 2
- Test Voltage : 3 V (unmodulated, r.m.s) 80% AM (1 kHz)
- Frequency Range : 0.15 MHz to 80 MHz
- Additional Selection Frequency : 0.2, 1, 7.1, 13.56, 21, 27.12, 40.68MHz
- Dwell time : 2.9 seconds
- Frequency step size : 1 %
- Coupling mode : CDN-M2+M3 for Input power ports
  : CDN-RJ45 for signal port and telecommunication ports
- Temperature : 26 ℃
- Relative Humidity : 48 %
- Atmospheric Pressure : 103 kPa
- Test Date : Oct. 25, 2011
- Test Engineer : Yen-Liang Ou
- Observation : Normal.

13.1. Test Level

Level	Voltage Level (EMF)
1	1 V rms
2	3 V rms
3	10 V rms
x	Specified
NOTE - x is an open class. This level can be specified in the product specification.	

13.2. Operating Condition

Full system

13.3. Test Procedure

a. The EUT shall be operated within its intended climatic conditions. The temperature and relative humidity should be recorded.

b. This test method test can be performed without using a sell shielded enclosure. This is because the disturbance levels applied and the geometry of the setups are not likely to radiated a high amount of energy, especially at the lower frequencies. If under certain circumstances the radiated energy is too high, a shielded enclosure has to be used.

c. The test shall be performed with the test generator connected to each of the coupling and decoupling devices in turn while the other non-excited RF-input ports of the coupling devices are terminated by a 50 ohm load resistor.

d. The frequency range is swept from 150 kHz to 80 MHz, using the signal levels established during the setting process, and with the disturbance signal 80% amplitude modulated with a 1kHz sine wave, pausing to adjust the RF-signal level or to switch coupling devices as necessary. The rate of sweep shall no exceed 1.5 x 10^{-3} decades/s. Where the frequency is swept incrementally, the step size shall no exceed 1% of the start and thereafter 1% of the preceding frequency value.

e. The dwell time at each frequency shall not be less than the time necessary for the EUT to be exercised, and able to respond. Sensitive frequencies e.g. clock frequency(ies) and harmonics or frequencies of dominant interest shall be analyzed separately.

f. In cases of dispute, the test procedure using a step size not exceeding 1% of the start and thereafter 1% of preceding frequency value shall take precedence.

g. Attempts should be made to fully exercise the EUT during testing, and to fully interrogate all exercise modes selected for susceptibility.

h. The use of special exercising programs is recommended.

i. Testing shall be performed according to a Test Plan, which shall be included in the test report.

j. It may be necessary to carry out some investigatory testing in order to establish some aspects of the test plan.

13.4. Photographs of CS tests

FRONT VIEW



REAR VIEW



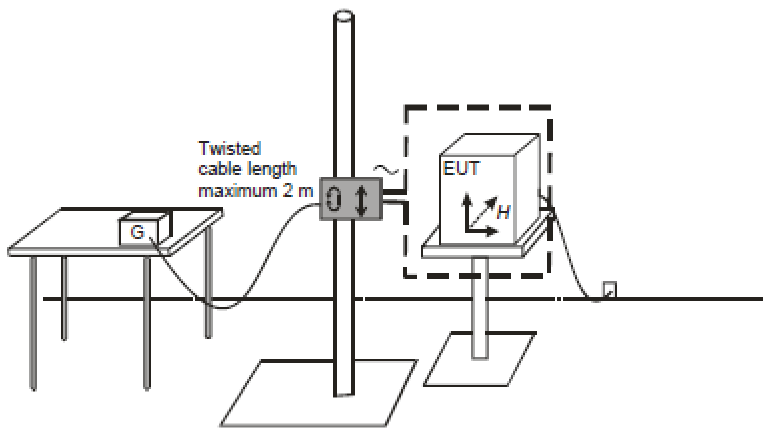
14. Power Frequency Magnetic Field immunity tests

- Final Test Result : ***PASS***
- Pass Performance Criteria : ***A***
- Required Performance Criteria : A
- Basic Standard : IEC 61000-4-8:2009
- Product Standard : EN 55024:1998/A1:2001/A2:2003
- Temperature : 26 ℃
- Relative Humidity : 48 %
- Atmospheric Pressure : 103 kPa
- Test Date : Oct. 25, 2011
- Test Engineer : Yen-Liang Ou
- Observation : Normal.

14.1. Test Record

Power Frequency Magnetic Field	Testing duration	Coil Orientation	Results	Remark
50Hz, 1A/m	1.0 Min	X-axis	Pass	Normal
50Hz, 1A/m	1.0 Min	Y-axis	Pass	Normal
50Hz, 1A/m	1.0 Min	Z-axis	Pass	Normal

14.2. Test Setup



EUT : Equipment under test G : Test Generator

14.3. Photographs of Power Frequency Magnetic Field immunity tests

FRONT VIEW



REAR VIEW



15. Voltage Dips and Voltage Interruptions Immunity Tests

- Final Test Result : ***PASS***
- Pass Performance Criteria : ***C*** for voltage interruption, ***A/A*** for voltage dips
- Required Performance Criteria : C for voltage interruption, C/B for voltage dips
- Basic Standard : IEC 61000-4-11:2004
- Product Standard : EN 55024:1998/A1:2001/A2:2003
- Test Port : Input power ports
- Temperature : 26 ℃
- Relative Humidity : 48 %
- Atmospheric Pressure : 103 kPa
- Test Date : Oct. 25, 2011
- Test Engineer : Yen-Liang Ou

15.1. Test Record of Voltage Interruption

Voltage (V)	Phase Angle		Reduction Voltage	Duration (Periods)	Observation
	0 °	180 °			
100/240	C	C	>95 %	250	After the interruption, the power of EUT was off. The power of the EUT must be reset by the operator

15.2. Test Record of Voltage Dips

Voltage (V)	Phase Angle		Reduction Voltage	Duration (Periods)	Observation
	0 °	180 °			
100/240	A	A	30 %	25	Normal
100/240	A	A	>95 %	0.5	Normal

15.3. Testing Requirement and Procedure

The test was based on IEC 61000-4-11:2004

15.4. Test Conditions

1. Source voltage and frequency : 100/240V, 50Hz, Single phase.
2. Test of interval : 10 sec.
3. Level and duration : Sequency of 3 dips/interrupts.
4. Voltage rise (and fall) time : 1 ~ 5 μs.

15.5. Operating Condition

Full system

15.6. Photographs of Voltage Dips and Voltage Interruptions Immunity Tests

FRONT VIEW



REAR VIEW



16. List of Measuring Equipment Used

<EMI>

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Receiver	R&S	ESCS 30	838251/002	9 kHz - 2.75 GHz	Aug. 17, 2011	Conduction (CO01-NH)
LISN	SCHAFFNER	NNB41	06/10024	9kHz - 30MHz	Jan. 11, 2011	Conduction (CO01-NH)
Power Filter	CORCOM	MR12030	N/A	30A*2	N/A	Conduction (CO01-NH)
RF Cable-CON	Suhner Switzerland	RG223/U	CB004	9kHz - 30MHz	Dec. 14, 2010	Conduction (CO01-NH)
Impedance Stabilization Network	TESEQ GMBH	ISN T400A	25669	150kHz - 30MHz	Sep. 19, 2011	Conduction (CO01-NH)
Impedance Stabilization Network	TESEQ GMBH	ISN T800	26105	150kHz - 30MHz	Sep. 19, 2011	Conduction (CO01-NH)
Open Area Test Site	SPORTON	OATS-10	OS03-NH	30 MHz - 1 GHz 10m, 3m	Nov. 12, 2011	Radiation (OS03-NH)
Amplifier	HP	8447D	2944A08292	0.1 MHz - 1.3 GHz	May. 03, 2011	Radiation (OS03-NH)
Spectrum Analyzer	Advantest	R3261C	81720147	9 kHz – 2.6 GHz	Sep. 01, 2011	Radiation (OS03-NH)
Receiver	R&S	ESCS 30	838251/002	9 kHz - 2.75 GHz	Aug. 17, 2011	Radiation (OS03-NH)
Bilog Antenna	CHASE	CBL6112D	25234	30 MHz - 2 GHz	Feb. 28, 2011	Radiation (OS03-NH)
Turn Table	EMCO	2080	9805-2065	0 - 360 degree	N/A	Radiation (OS03-NH)
Antenna Mast	EMCO	2075	9804-2151	1 m - 4 m	N/A	Radiation (OS03-NH)
RF Cable-R10m	HSCN	RG213U	2X11N	30 MHz - 1 GHz	Aug. 10, 2011	Radiation (OS03-NH)
Amplifier	EMCI	EMC330	980007	1 ~ 8 GHz	May 09, 2011	Radiation (10CH02-HY)
Horn Antenna	EMCO	3115	6903	1 ~ 8 GHz	May 04, 2011	Radiation (10CH02-HY)
Receiver	R&S	ESI	838496/008	20 Hz ~7 GHz	Apr. 24, 2011	Radiation (10CH02-HY)
RF Cable 5M	SUHNER	SUCOFLEX 104	SN：304379/4	1 GHz ~18 GHz	Mar. 09, 2011	Radiation (10CH02-HY)
RF Cable 13M	SUHNER	SUCOFLEX 104	SN：16647/4	1 GHz ~18 GHz	Mar. 09, 2011	Radiation (10CH02-HY)
10m Semi Anechoic Chamber	TDK	SAC-10M	10CH02-HY	1 GHz ~ 6 GHz 3m	Mar. 12, 2011	Radiation (10CH02-HY)

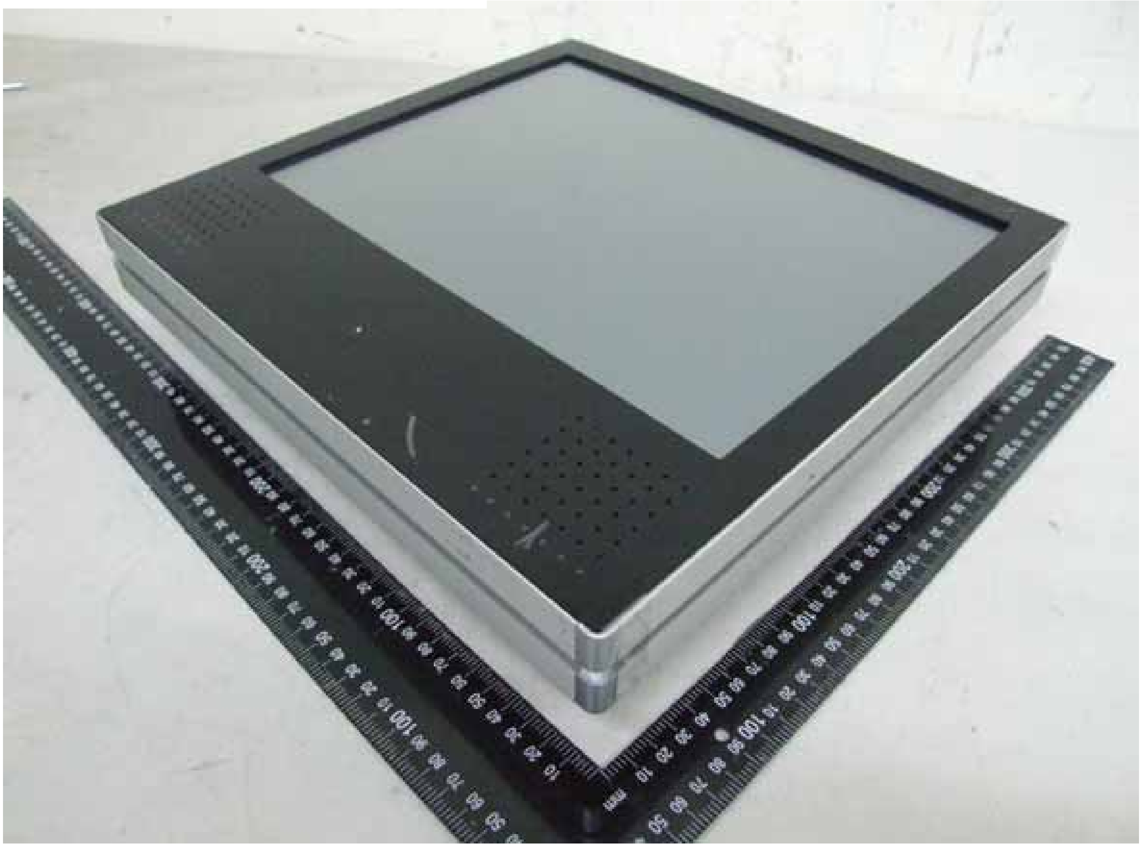
※ Calibration Interval of instruments listed above is one year.

<EMS>

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
ESD Generator	TESEQ AG	NSG 437	192	Air: 0 ~ 30 KV Contact: 0 ~15KV	Oct. 07, 2011	ESD
Amplifier	AMPLIFIER& RESEARCH	250W1000A	0325368	80M~1GHz	Sep. 09, 2011	RS
DUAL DIRECTIONAL COUPLER	FARNKONIA	FLH200/100	1127	80-1GHz	Sep. 07, 2011	RS
S.G.	ROHDE& SCHWARZ	SML03	103349	9kHz~3.3GHz	Sep. 08, 2011	RS
METER	HP	438A	3513U04050	100 kHz~26.5 GHz	Sep. 08, 2011	RS
POWER Sensor	HP	8481D	3318A13140	10MHz~18GHz	Sep. 08, 2011	RS
POWER Sensor	HP	8482A	3318A26464	100 kHz~4.2GHz	Sep. 08, 2011	RS
Attenuator	HP	8491A	53603	3dB	N/A	RS
EMCPro System	KeyTek	EMCPro	0609221	0 KV - 4.4 KV	Oct. 17, 2011	EFT
EFT/Clamp	KEYTEK	CCL-4/S	0303191	0 KV -1 KV	N/A	EFT
SURGE Generator Bi-Wave	KEYTEK	EMCPRO	0609221	0 KV -6 KV/2Ω 0KV-500V/12Ω	Oct. 17, 2011	SURGE
SURGE/CDN	EMC -PARTNER	CDN	UTP-8	0.5 kV - 6 kV	Aug. 20, 2011	SURGE
Conducted Immunity Test System	SCHAFFNER	NSG2070	1091	100KHz ~ 250MHz FM 1KHZ 80%	Jun. 17, 2011	CS
Attenuator	EM TEST	75W-DC-250 MHz 06	0004166A	150 kHz – 230 MHz	Jun. 15, 2011	CS
Koppel-Eutkoppelnetzwerk	FRANKONIA	CDN M2+M3	A3011018	150k~230MHz	Jun. 19, 2011	CS
Coupling/ Decoupling Network	FRANKONIA	CDN RJ45	A3023005	150k~230MHz	Jun. 19, 2011	CS (RJ45)
Magnetic Field Antenna	FCC	F-1000-4-8/9/10-L-1M	9830	0~125A	Apr. 19, 2011	Magnetic
Magnetic Generator	FCC	F-1000-4-8-G-125A	05004	0~125A	Apr. 19, 2011	Magnetic
EMCPro System	KeyTek	EMCPro	0609221	230VA/50Hz/60Hz 0%Open/5S 0%Short/5S 40%0.10S 70%/0.01S	Oct. 17, 2011	DIP
Harmonic/Flicker Test System	EMC PARTNER	Harmonics -1000	088	4000VA 16A PEAK	Sep. 15, 2011	Harmonics, Flicker

※ Calibration Interval of instruments listed above is one year.

APPENDIX A. Photographs of EUT

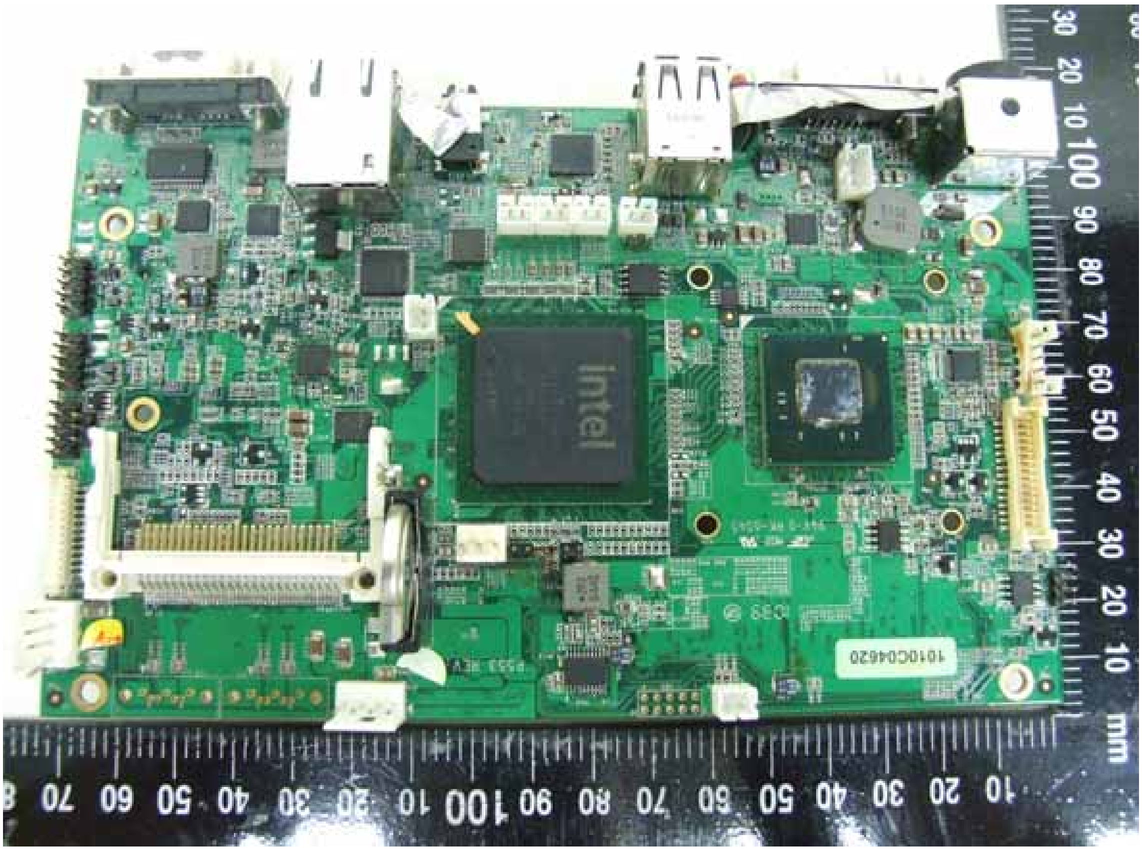




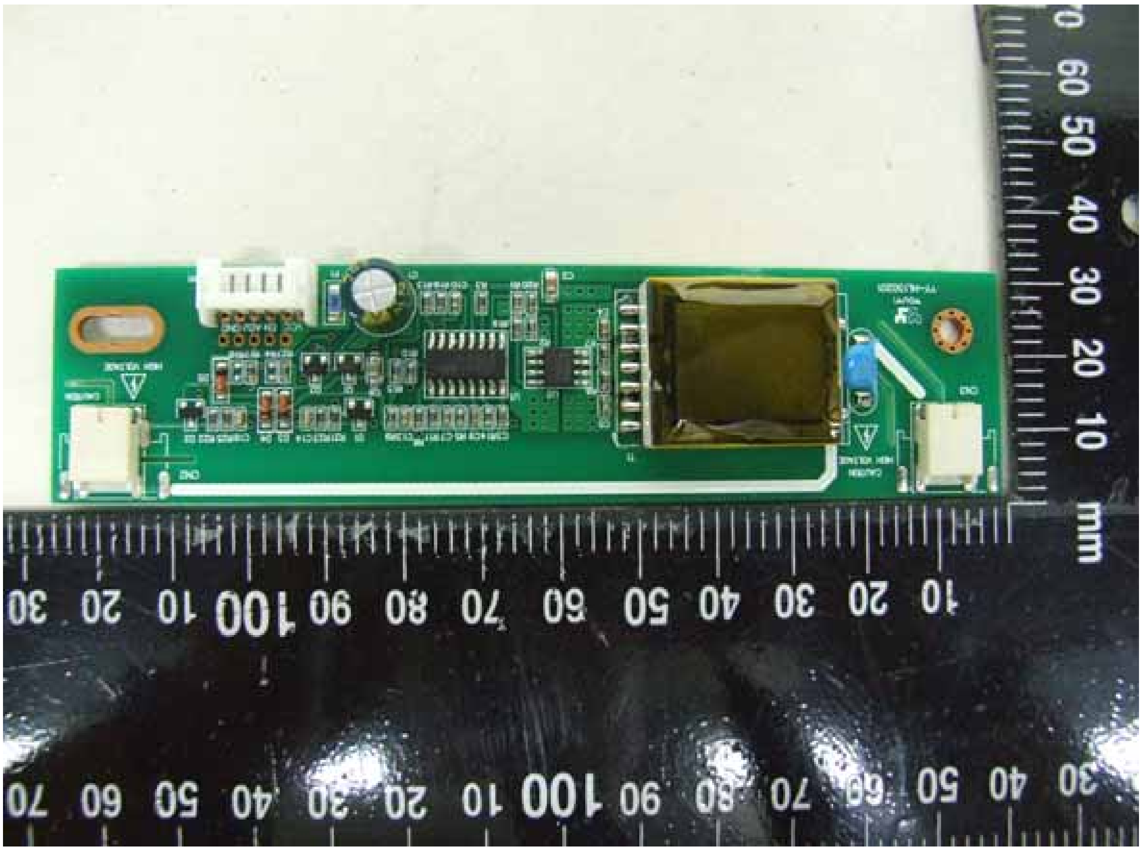


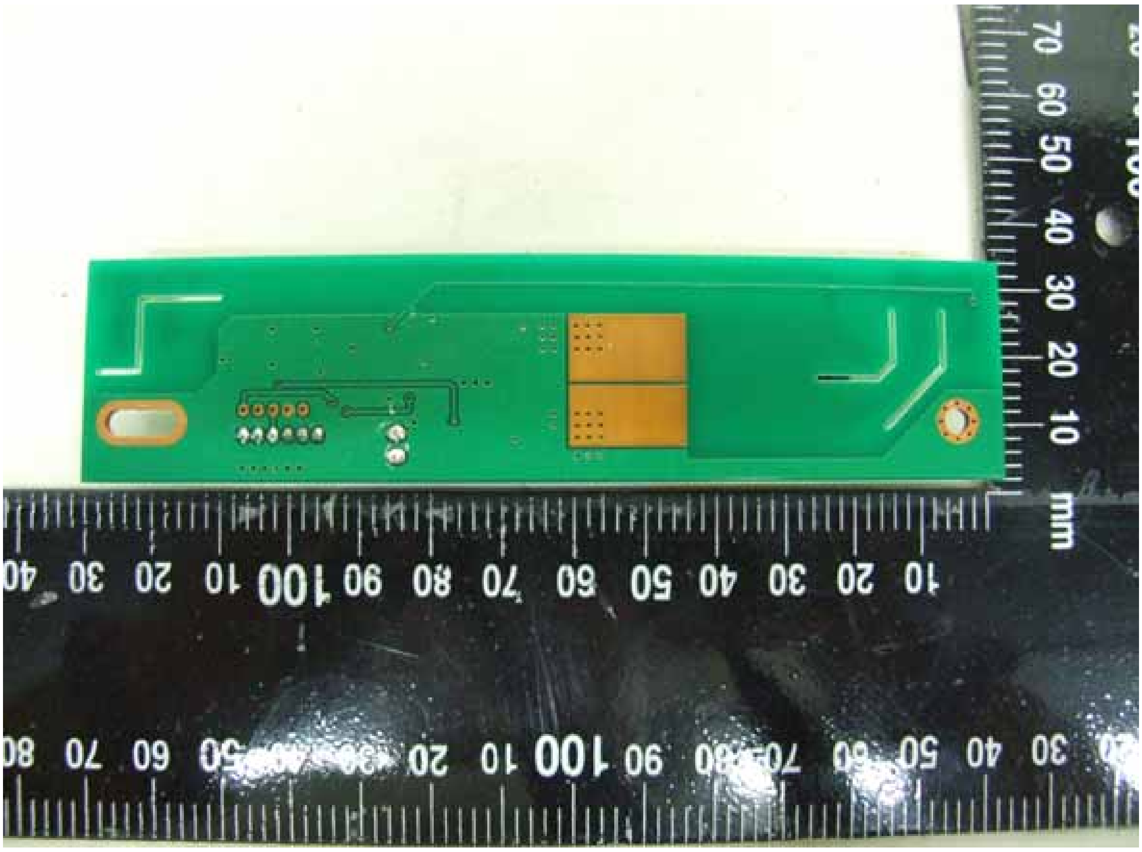


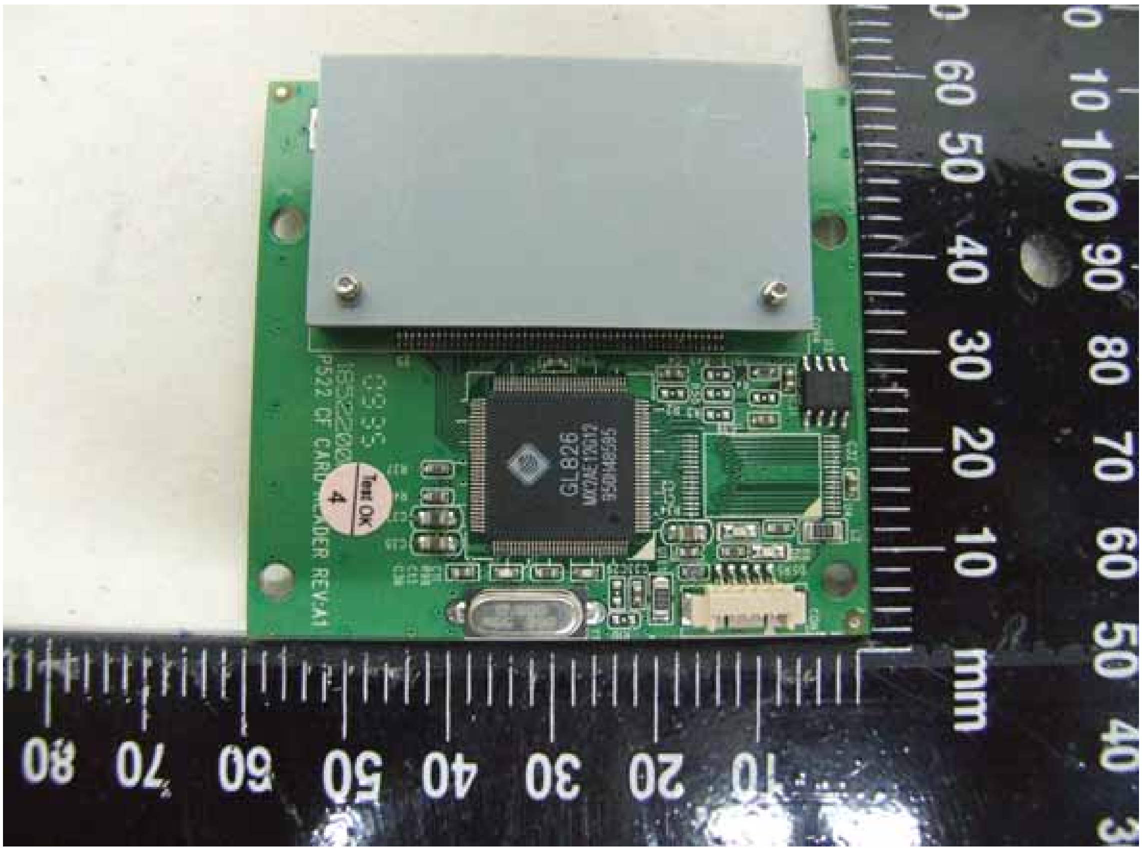


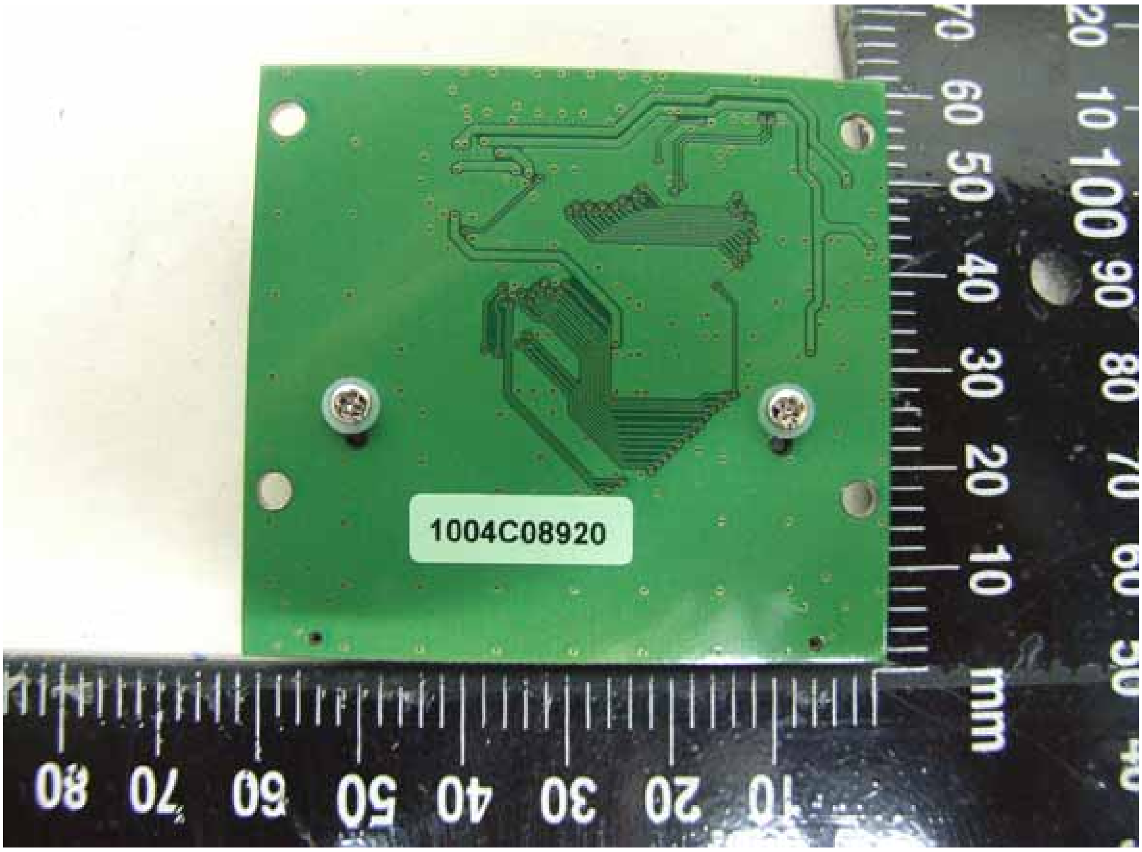


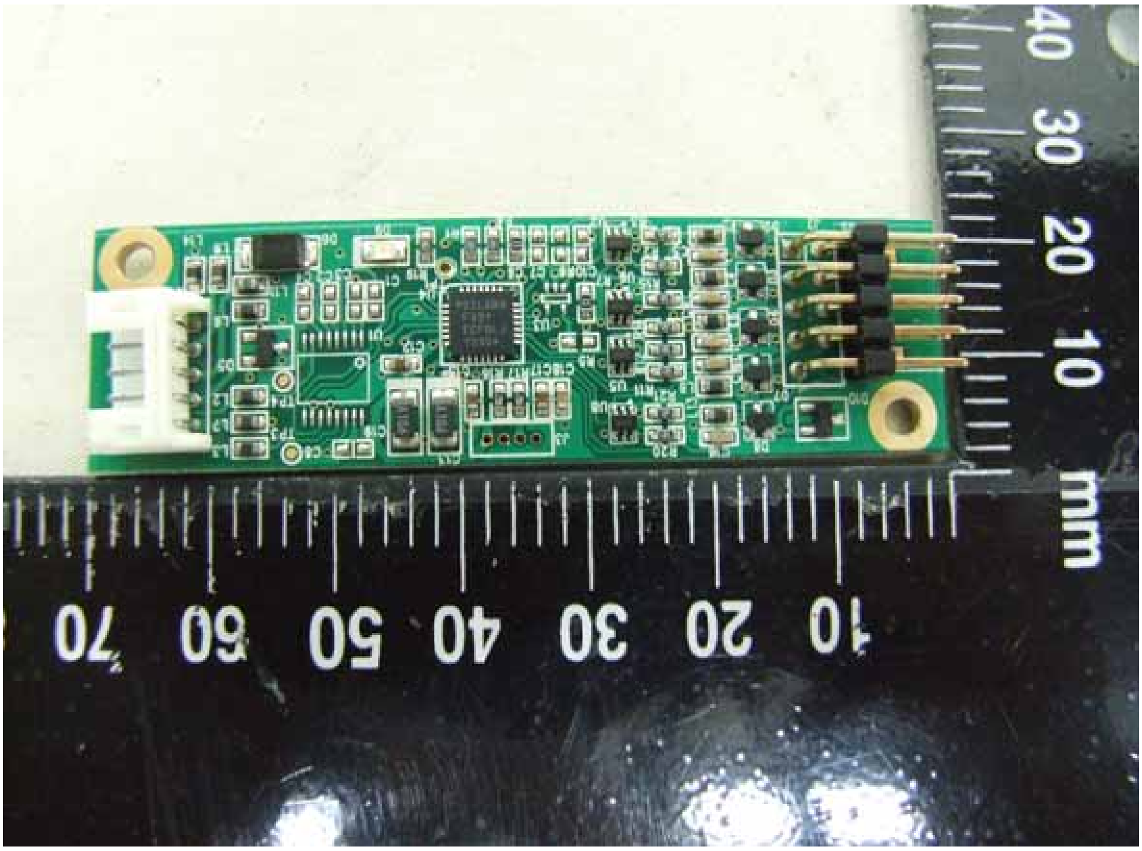





mm

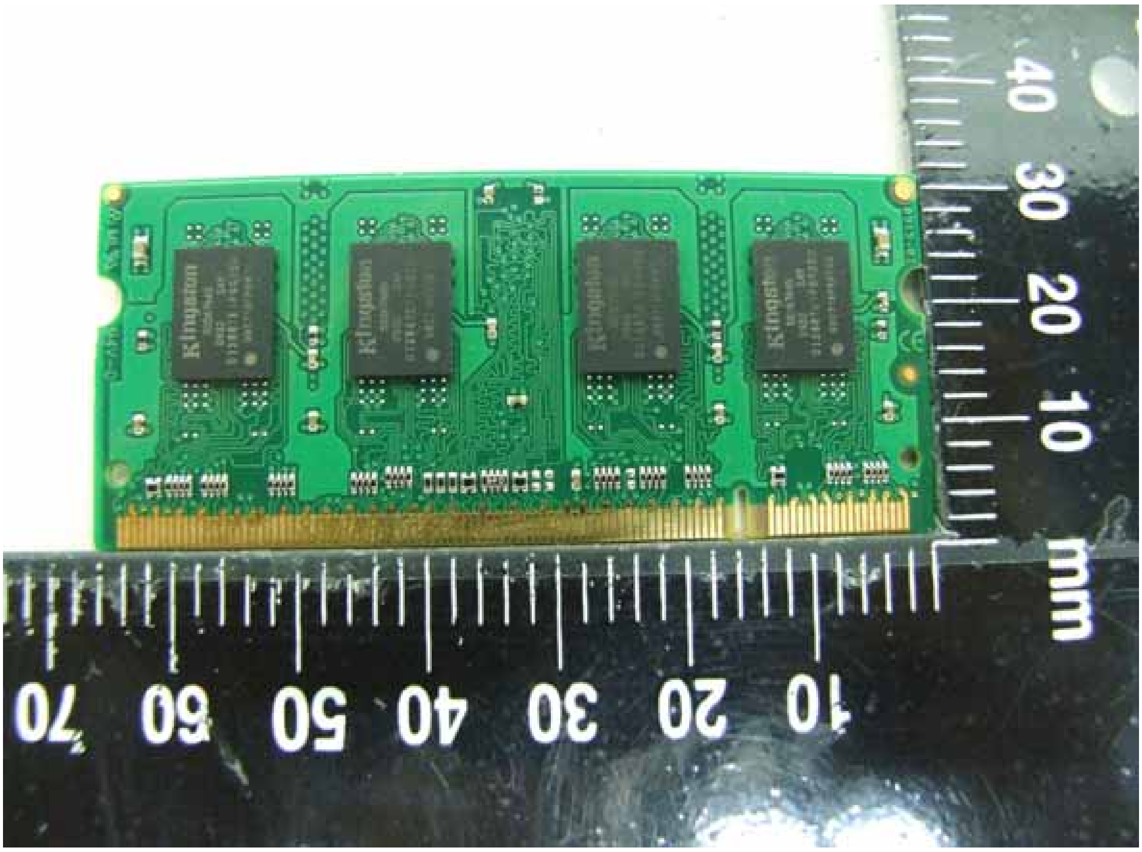

GL826
Test OK
4
mm


1004C08920




AIM-RC-3100C
V1.39


Kingston
KVR
99U5293-009.A00LF
4439952-1282677
ASSY IN CHINA (2)
KVR667D2S5/1G
1.8V
Warranty Void If Removed



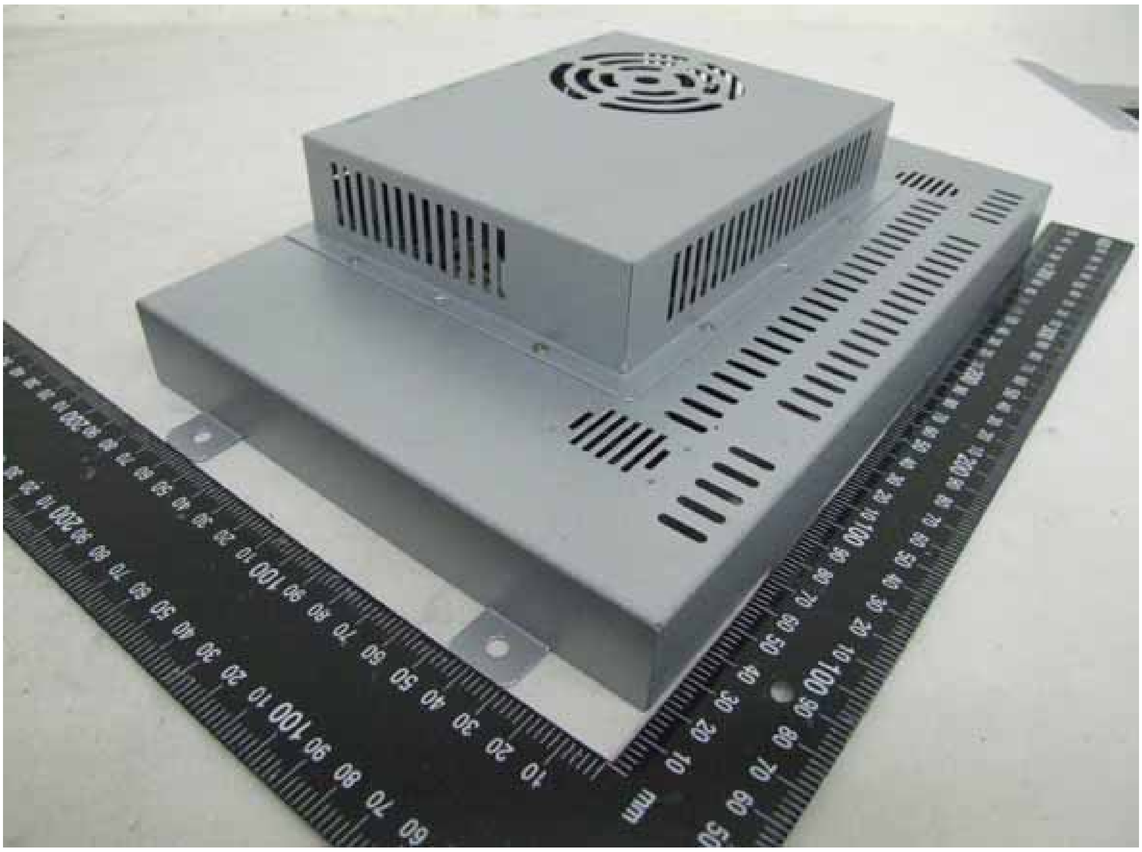

Apacer
CompactFlash
Commercial CF
2GB


CompactFlash
Keep away from electrostatic source or magnetic field
Do not bend drop or impact card
Avoid heat, wart, direct sunlight
P/N: 81.2H010.4B10C
M/N: AP-CF002GF3ER-NR
881036100310
RoHS
CE FC





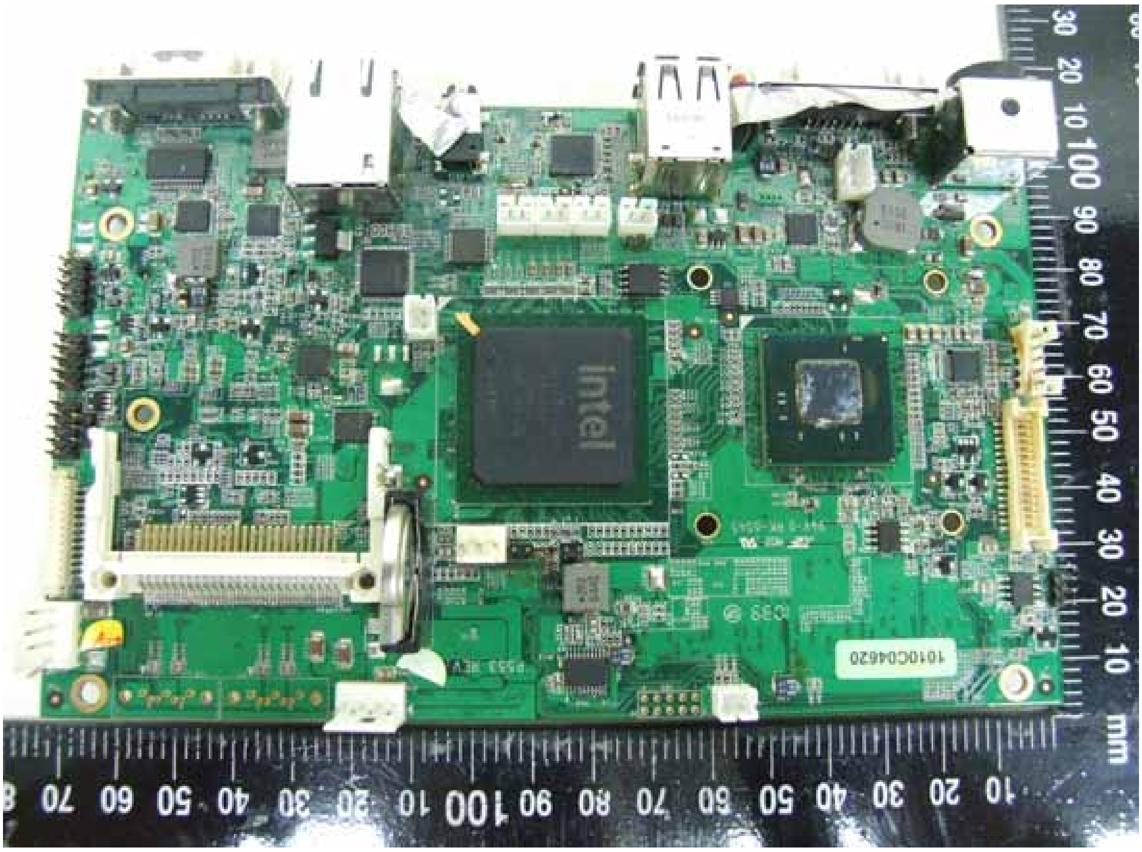




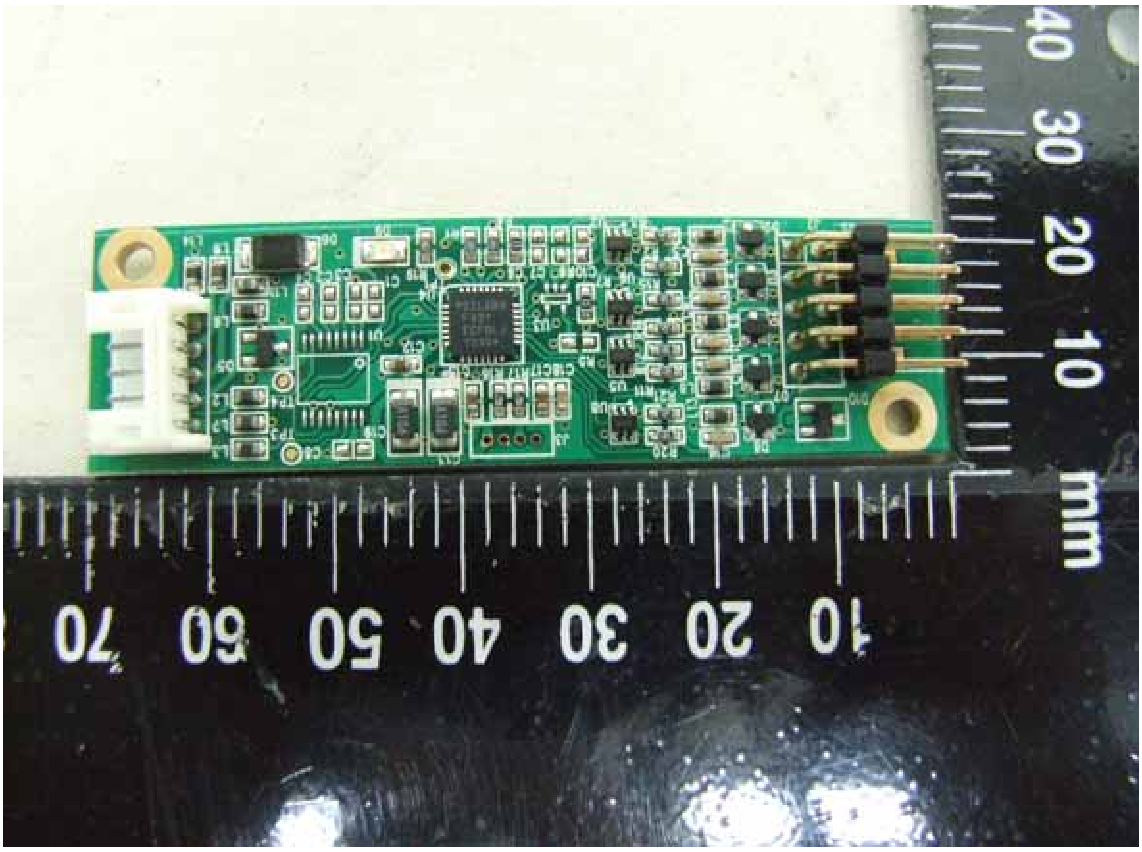




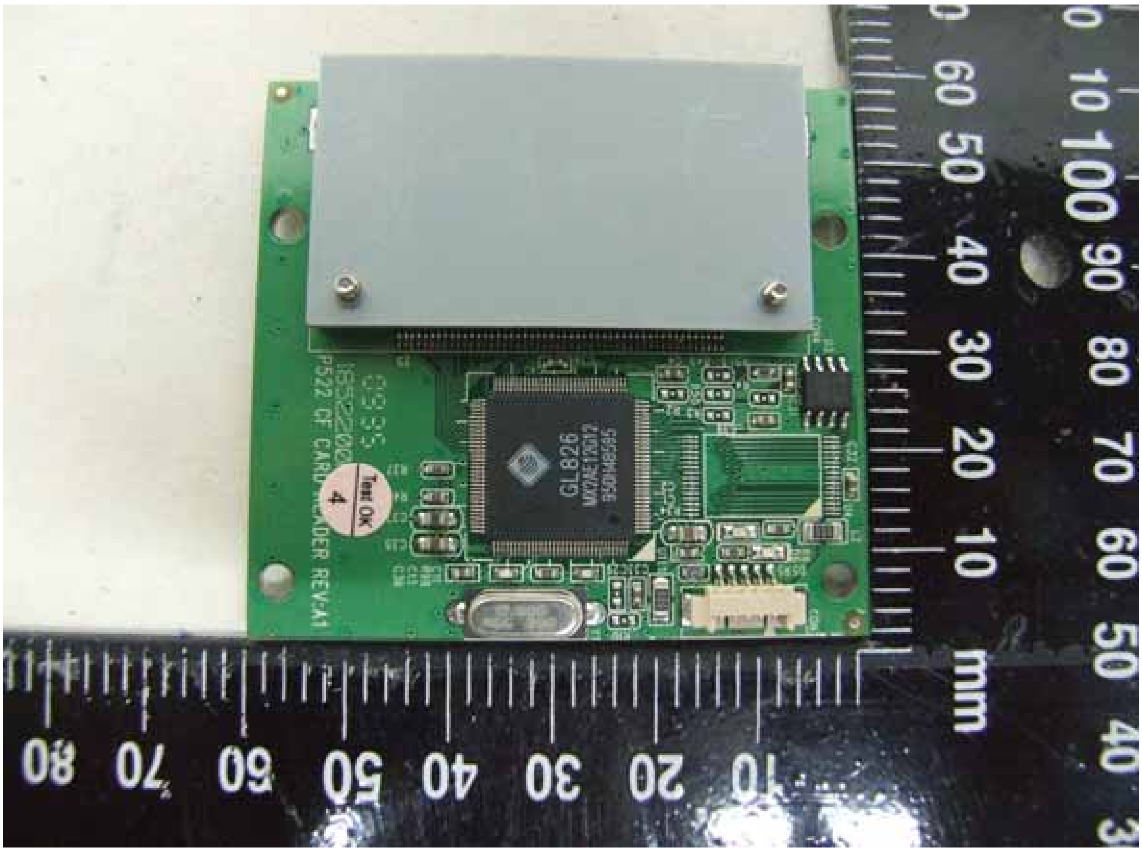


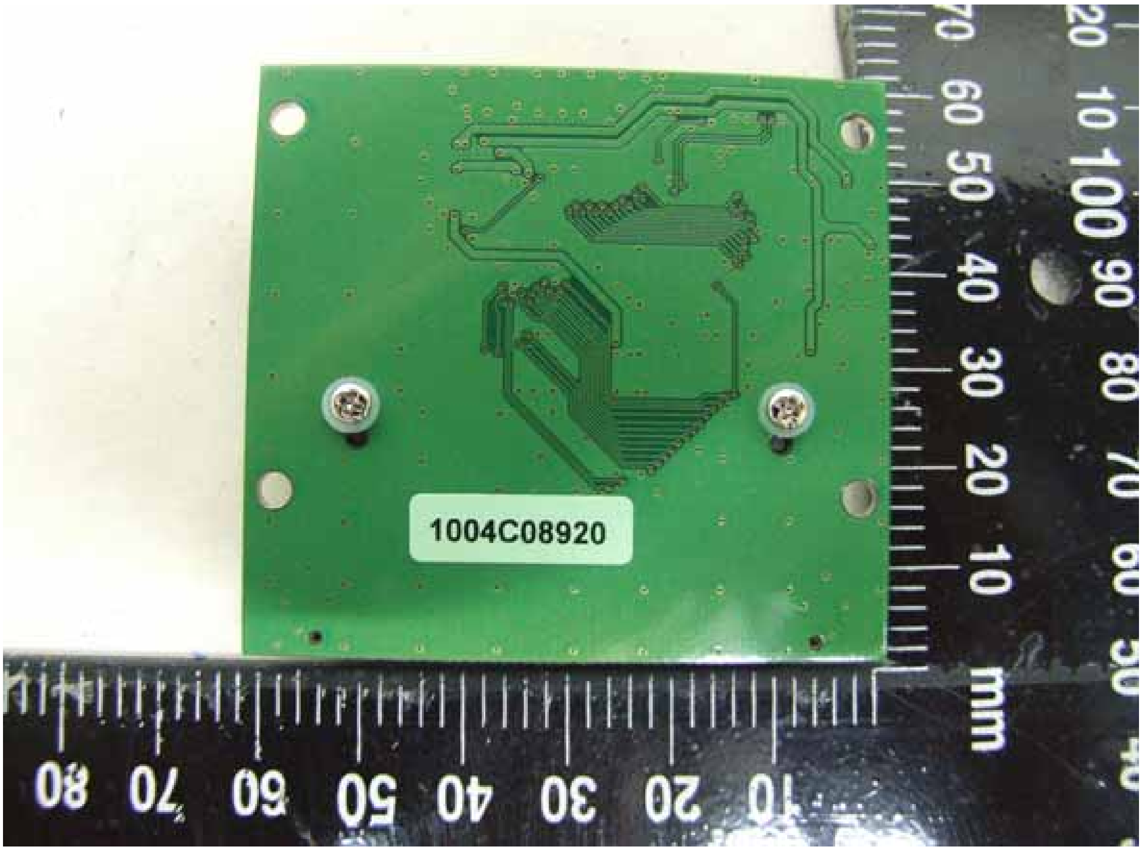




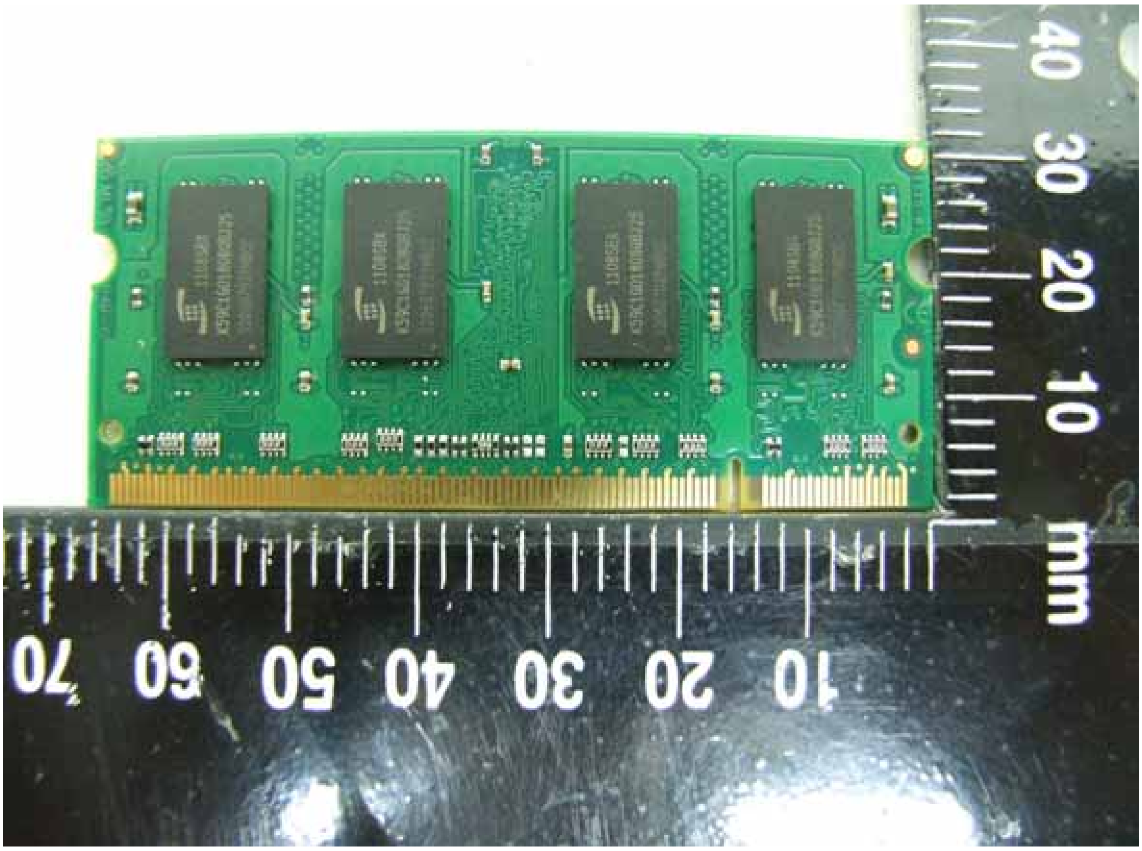



AIM-RC-3100C
V1.39

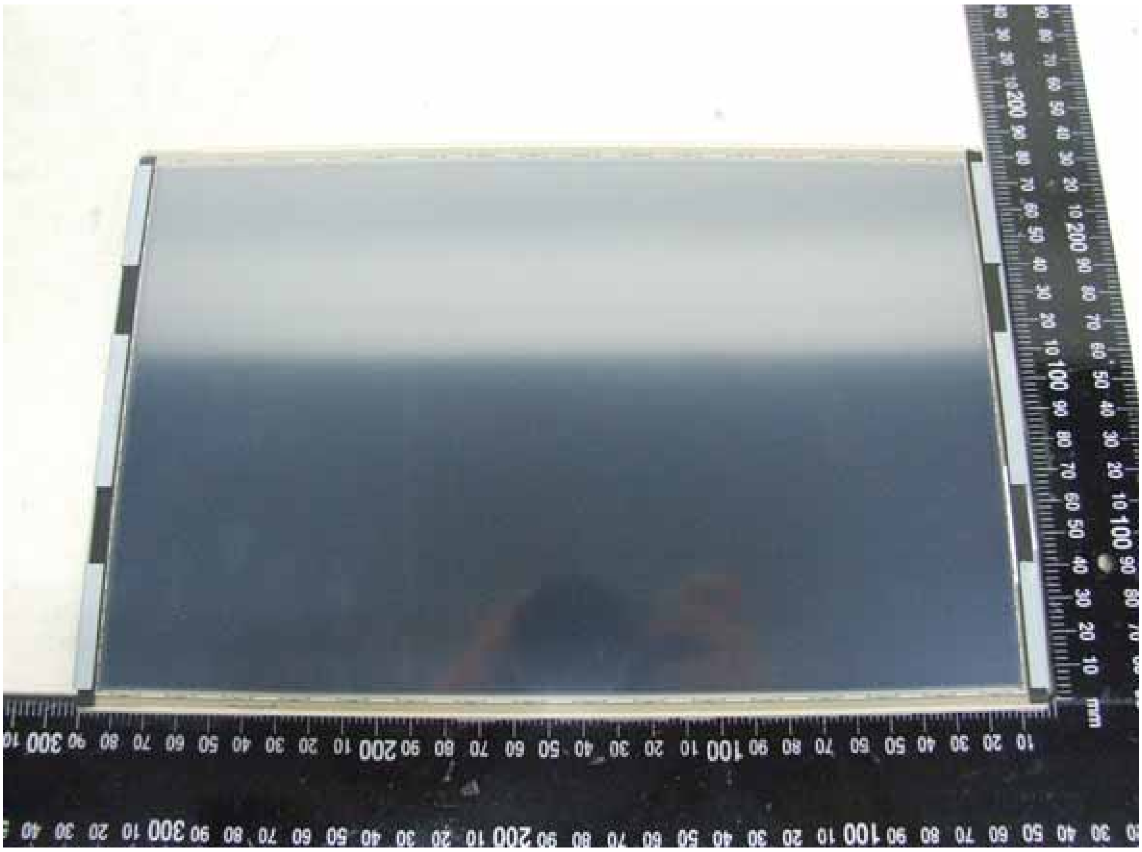

GL826
Test OK
4
P522 CF CARD READER REV:A1

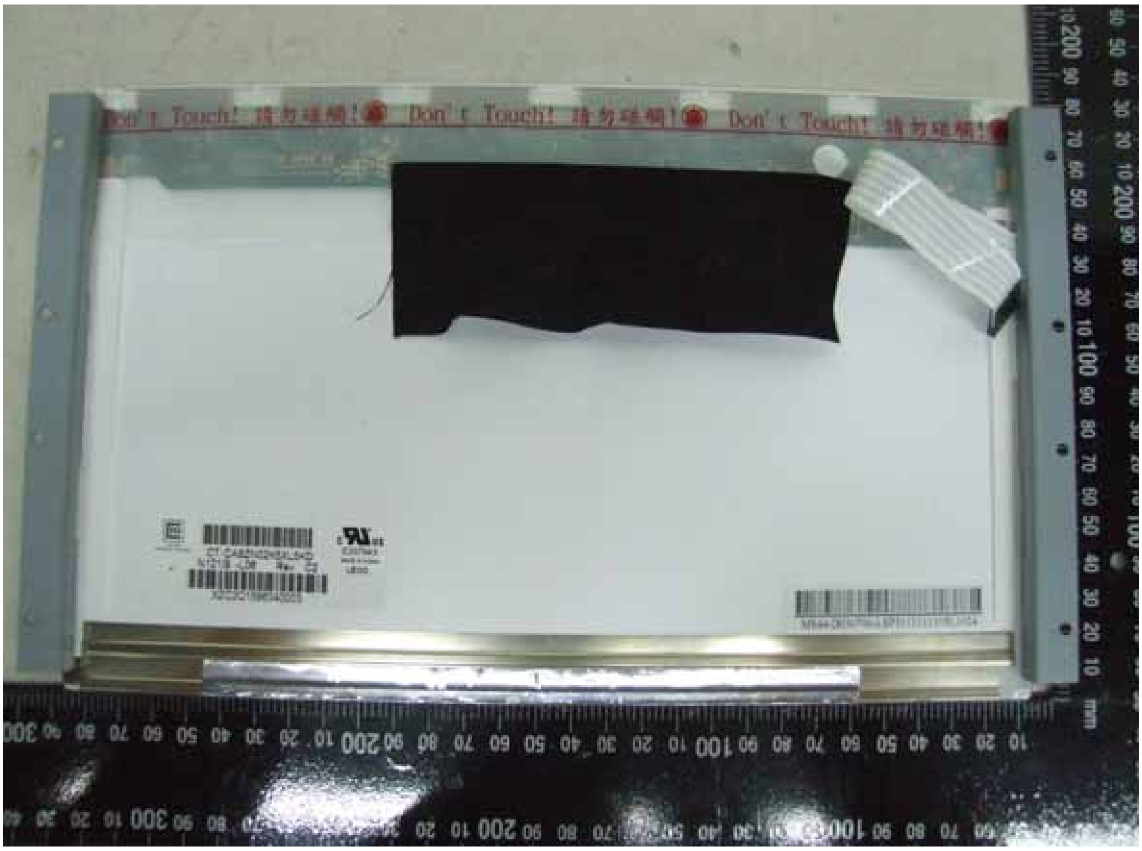

1004C08920





TEL : 886-2-2696-2468
FAX : 886-2-2696-2255




Don't Touch!

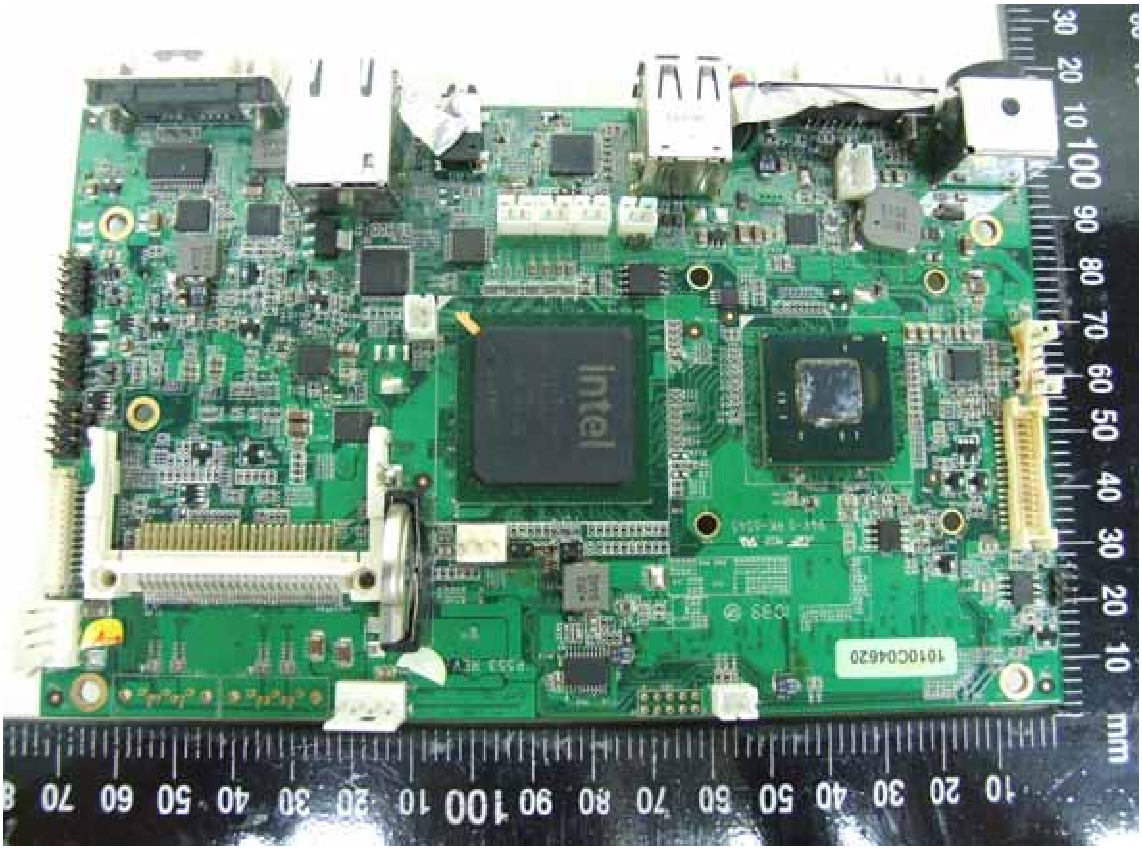




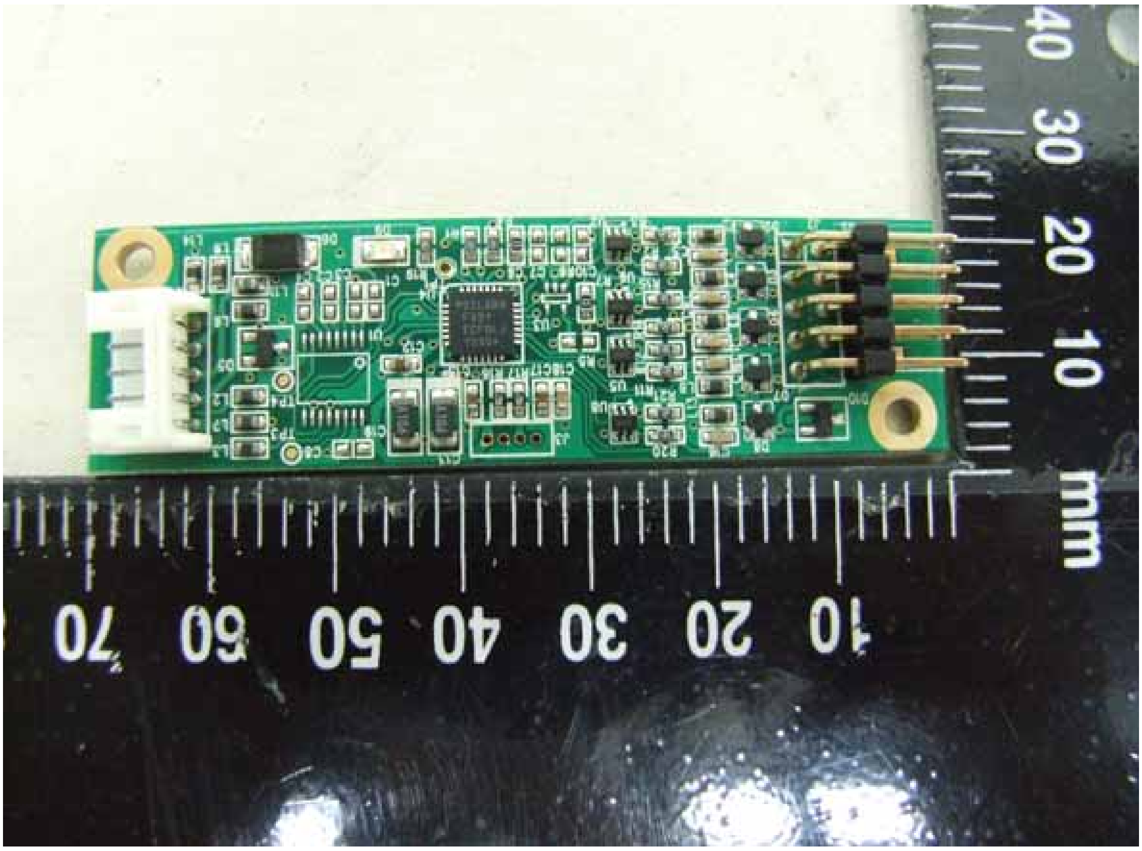




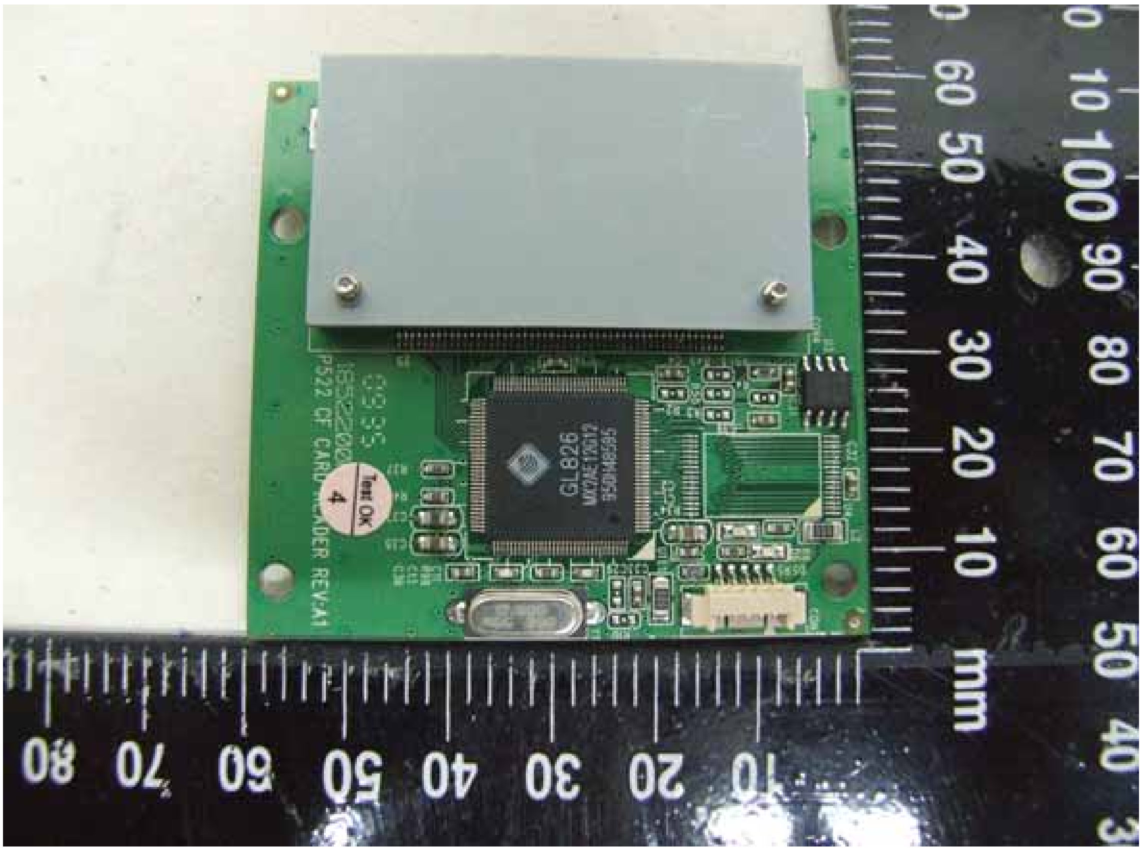


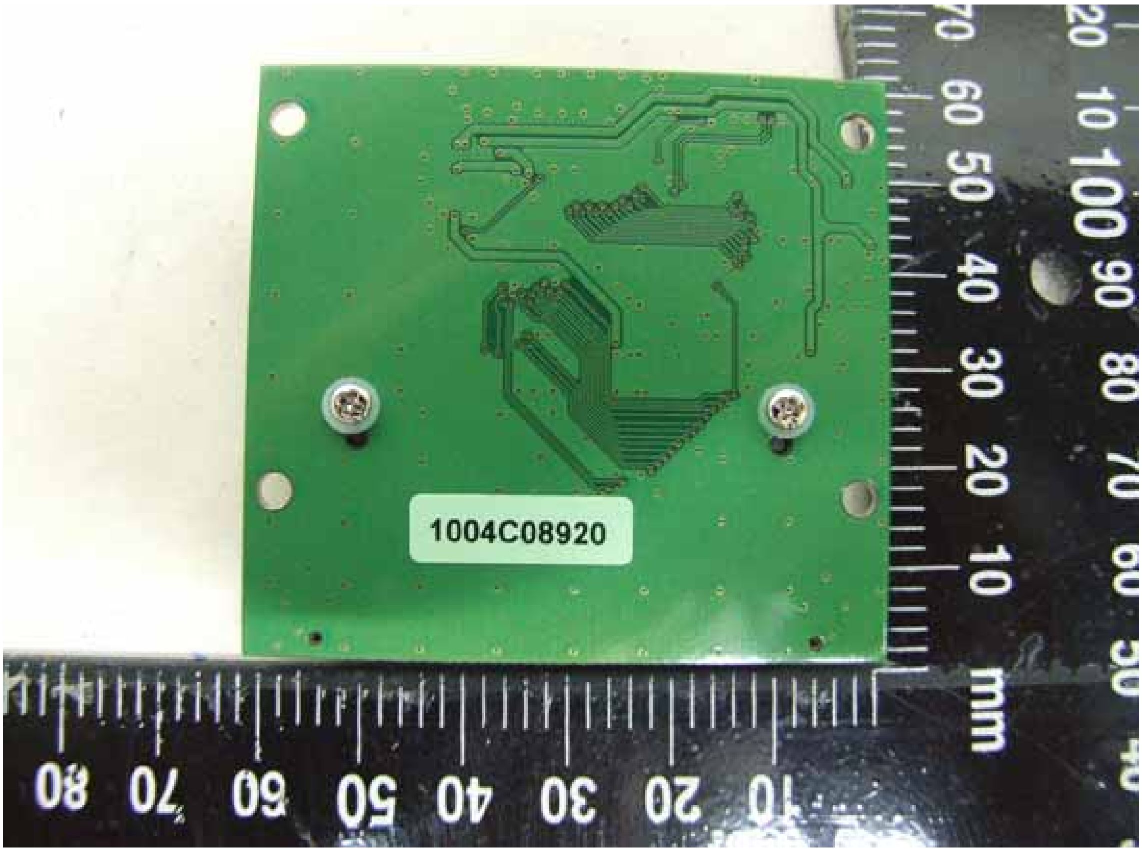


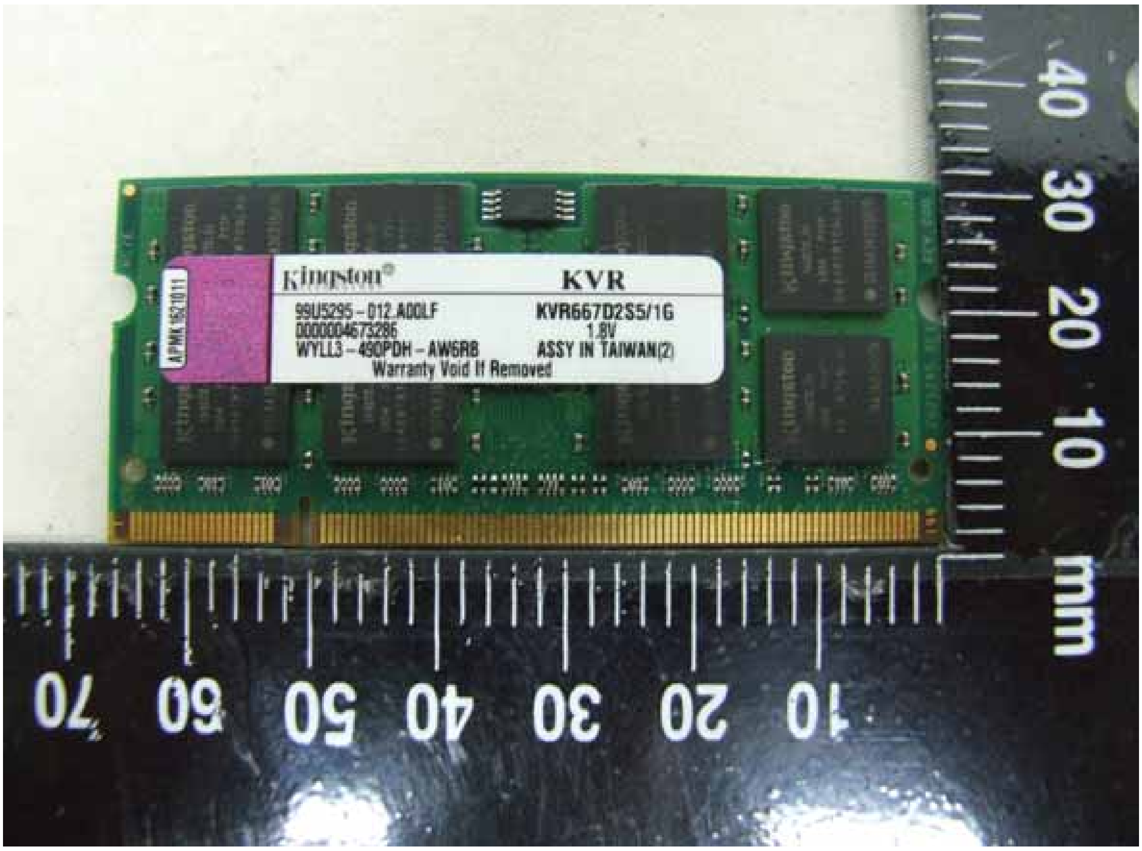


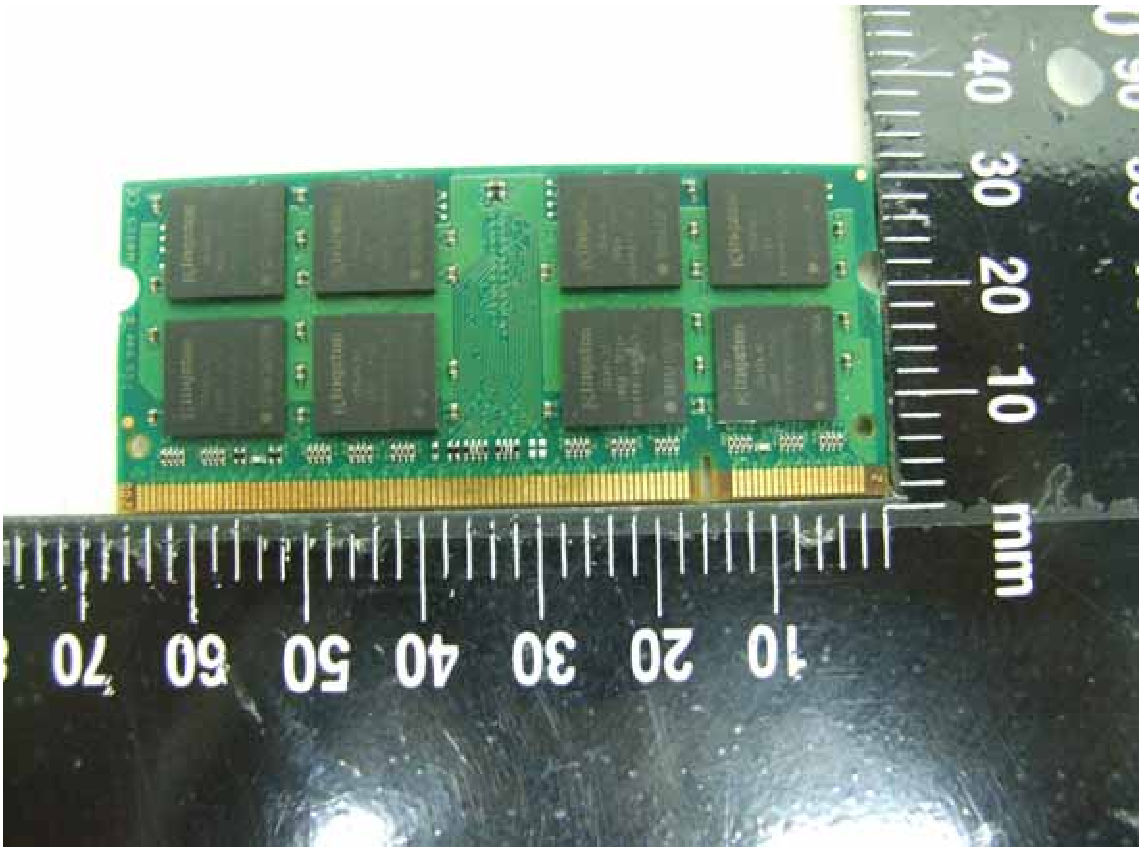


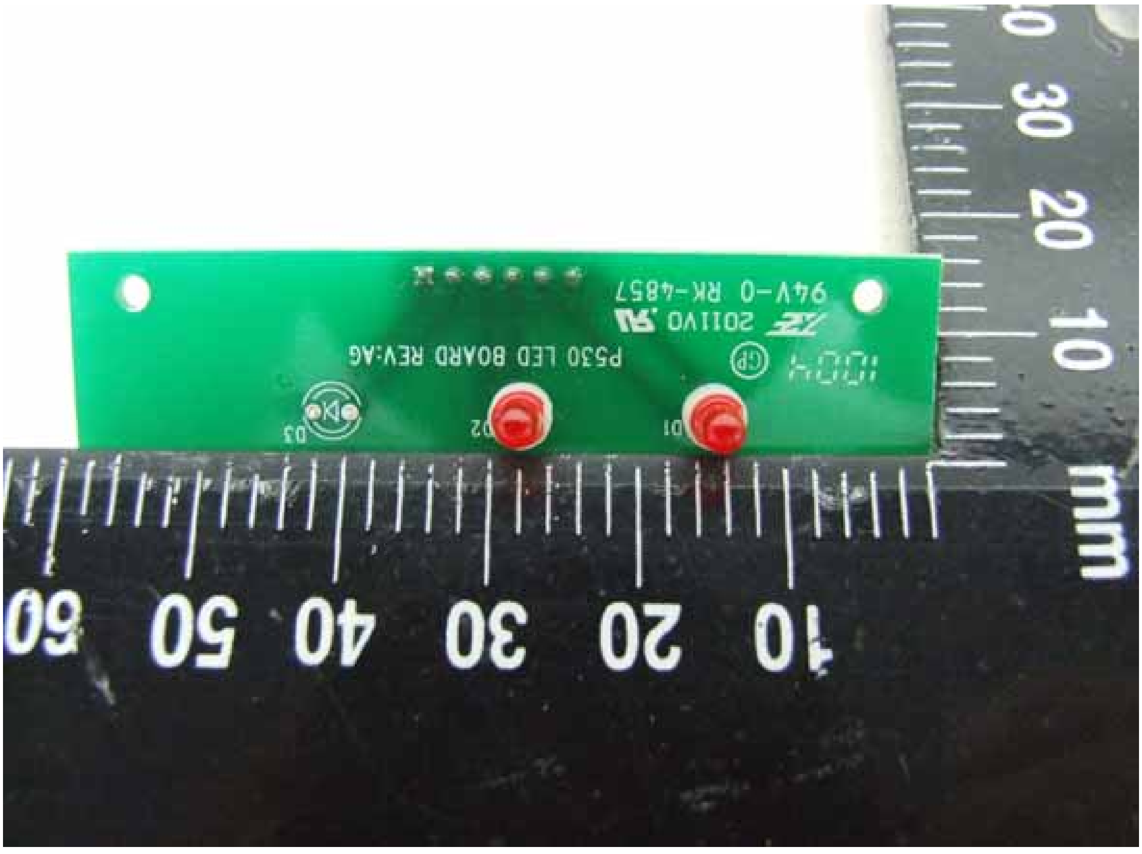

AIM-RC-3100C
V1.39

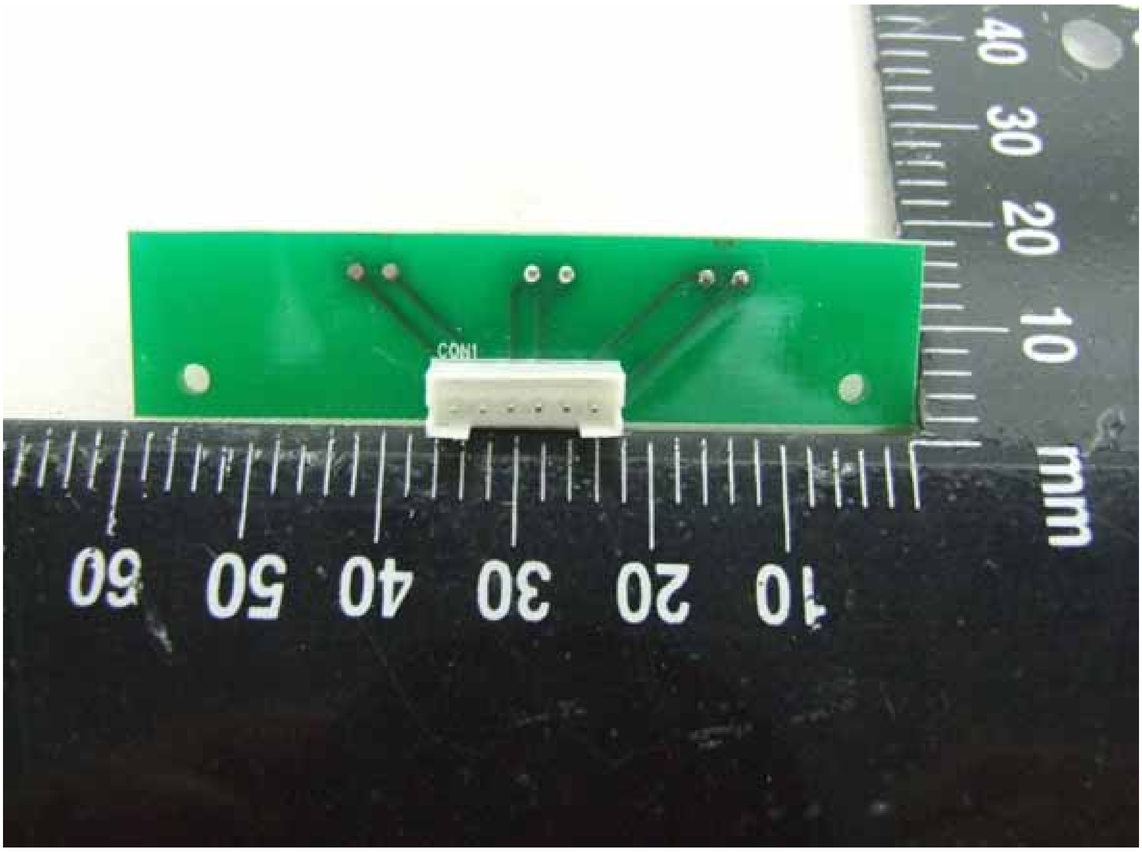

GL826
P522 CF CARD READER REV:A1
Test OK
4


1004C08920


Kingston
KVR
99U5295-012.A00LF
0000004673286
WYLL3-49DPDH-AW6RB
KVR667D2S5/1G
1.8V
ASSY IN TAIWAN(2)
Warranty Void If Removed

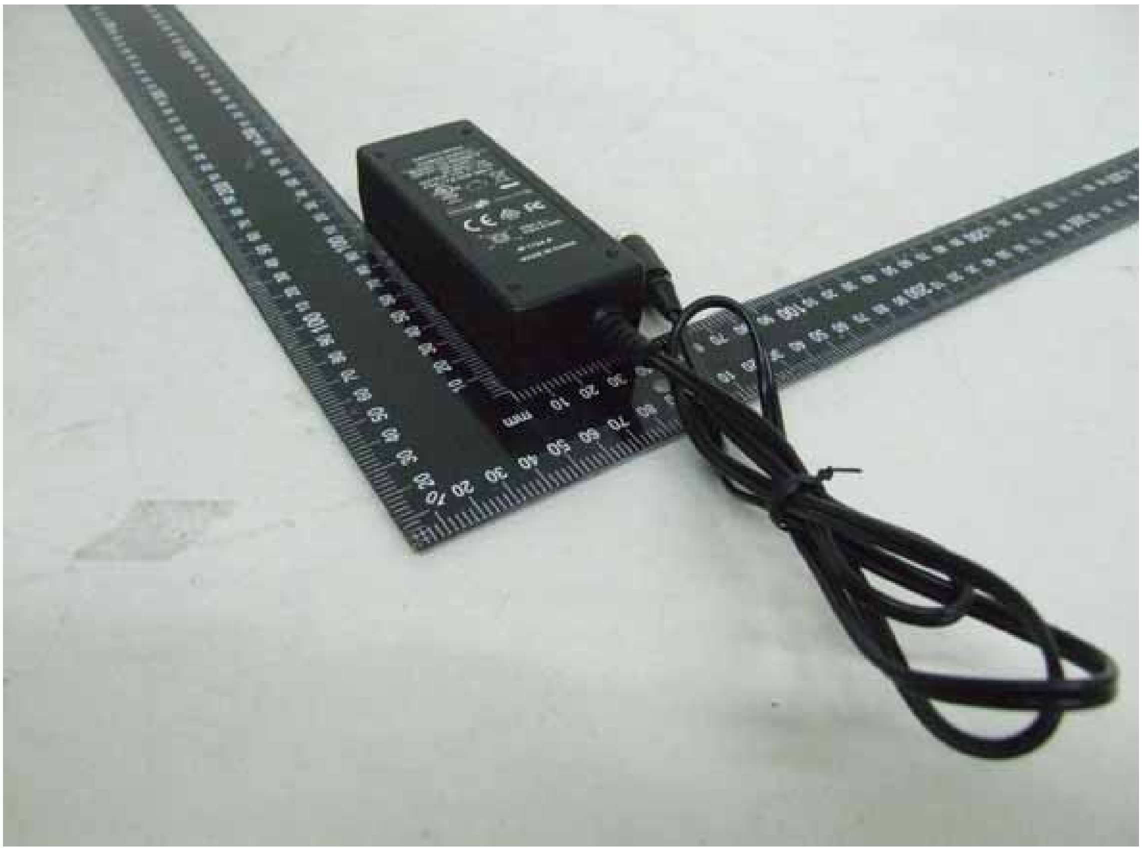



94V-0 RK-4857
2011VO
P530 LED BOARD REV:AG
D1
D2
D3












SWITCH-MODE
POWER SUPPLY
MODEL:3A-603DB12
INPUT: 100-240V~,
50-60Hz,1.5A
OUTPUT:12V ⎓ 5.0A
FOR I.T.E USE ONLY
LISTED
Intertek
EFFICIENCY LEVEL V
PIN1,2:+
PIN3,4:GND
1124 A
MADE IN CHINA